THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
Railway Engineer · TRANSPORT · The Railway News
The Railway Times · Herapath's Railway Journal · RAILWAY RECORD.
RAILWAYS ILLUSTRATED · ESTABLISHED 1835 · THE RAILWAY OFFICIAL GAZETTE

PUBLISHED EVERY FRIDAY
AT
33, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1

Telegraphic Address: "TRAZETTE PARL., LONDON"
Telephone No.: WHITEHALL 9233 (12 lines)

Annual subscription payable in advance and postage free
British Isles and Abroad .....£2 5s. 0d.
Single Copies .....One Shilling
Registered at the General Post Office, London, as a Newspaper

VOL. 87 NO. 22 FRIDAY, NOVEMBER 28, 1947

CONTENTS

	PAGE
Editorial Notes	601
Trial and Error	603
Looking Back on Grouping	603
U.S.A. Railways and Coal Shipments	606
Recent Trends in Structural Welding	606
Left- and Right-Hand Running	607
British Transport Commission: Railway Organisation	608
Letters to the Editor	611
The Scrap Heap	612
Overseas Railway Affairs	613
A.T.C. Demonstration on G.W.R.	614
The Ilford Flyover	616
L.M.S.R. Staff Instructional Filming	618
Marshalling Yard Lighting Experiment	621
Coal Hopper Wagons for Nigerian Railway	622
Personal	623
British Transport: Rates and Charges	626
Organisation of French Railways	627
L.N.E.R. Experiments with Tarpaulins	627
Questions in Parliament	628
Modernised Refreshment Rooms, L.N.E.R.	629
Notes and News	629
Stock Market and Table	632

DIESEL RAILWAY TRACTION

The December issue of this RAILWAY GAZETTE *Publication, illustrating and describing developments in Diesel Railway Traction, will be ready on December* 1, *price* 2*s.*

RAILWAY INSPECTION

A brief yet ample account of the legislation evolved to ensure the safety of the travelling public

24 *pages Octavo in paper cover*

PRICE ONE SHILLING

RAILWAY ACCIDENTS

Legislation and Statistics

1825—1924

54 *pages Foolscap Folio in paper cover*

PRICE FIVE SHILLINGS

THE RAILWAY GAZETTE

33, TOTHILL STREET, WESTMINSTER, S.W.1

Speeding Wagon Turn round

LAST week-end there appears to have been a gratifying response to the urgent appeal by Sir Stafford Cripps for a quicker turnround of railway wagons. Press reports on Monday recorded the working of much overtime by men in most of the goods yards in many parts of the country. As the result of an appeal by Mr. E. S. Hunt, London District Goods Manager of the London Midland & Scottish Railway, for example, more than 6,000 London firms, many of which formerly operated a 5-day week, agreed to co-operate with the railway company by bringing on men on Saturdays and Sundays. Reports from the other railways also indicate a gratifying response to the efforts which the railways are making to clear wagons over week-ends. In this, every district or divisional manager is endeavouring to secure the co-operation of the staff, and traders are being approached locally and through their associations. On Tuesday it was stated that more than 60,000 wagons had been cleared on the previous Saturday and Sunday. Some of the figures given in the daily Press of the results achieved appeared to be somewhat optimistic, but available evidence suggests that the quicker turnround campaign got away to a good start.

* * * *

Revision of Steel Priorities

In the House of Commons towards the end of last week, Mr. Marquand, Paymaster-General, gave some details of the revision of the steel priority system which has been made in an effort to assure supplies of steel as far as possible for programmes which contribute to exports, or goods in the needs of agriculture to the saving of imports. In future, priority authorisations are to be made on a selective, instead of the present bulk, basis. He explained that the machinery for the allocation of steel was now under review with the object of ensuring that deliveries of steel more closely match allocations; it would thus become possible greatly to reduce bulk priority authorisations without detriment to the carrying out of the programmes concerned. It had been decided to introduce concurrently a strictly limited system of selective priorities by means of which departments responsible for the existing priorities, or for export or import-saving programmes, would be able to authorise the use of the priority symbol to a very limited extent. He emphasised that as soon as this scheme was in operation priority in supply of steel would apply only to orders duly authorised on a form which bears the initials "P.M.L." (Prime Minister's List).

* * * *

Organisation of French National Railways

At the present time, when the organisation of the British railways under State ownership, to which they will pass on January 1, is being brought into being, topical interest attaches to the methods which have been adopted in other countries. An example near at hand of the organisation of formerly separately-owned railway systems into a State monopoly is available in the French National Railways. Mr. John Elliot, who recently assumed the duties of General Manager of the Southern Railway on the appointment of Sir Eustace Missenden as Chairman of the Railway Executive, gave some interesting details of the development of the organisation of the S.N.C.F. as between headquarters and regions when he spoke in the discussion of Mr. F. A. Pope's recent paper on the principles of organisation for large undertakings which was read before the Institute of Transport. Mr. Elliot, whose remarks are reproduced elsewhere in this issue, explained how liaison is effected and maintained between the *Service Central* and the officers in the regions, with over-riding powers of authorisation and settlement of disputes vested in the Director-General.

* * * *

Economics of British Railway Rates in 1,400 Words

Recently the B.B.C. has included in its Chinese programme a series of talks on "The Structure of British Industry—Transport." On October 11 the broadcast embraced a translation into Chinese of a paper on "British Transport: Rates and Charges" by Mr. A. E. Sewell, Chairman of Railway Panel, Road & Rail Central Conference. The script was restricted to 1,400 words—a small compass in which to discuss

the economics of rates and charges for the transport of merchandise by rail, road, inland waterway, and sea. Nevertheless, readers will see from the English version elsewhere in this issue that Mr. Sewell contrived to compress a broad outline of our charging arrangements into the assigned space. We have not heard whether the broadcast aroused a lively interest in China, but it would have been above the heads of most listeners in this country. The whole question of transport charges is in a transition stage. Much of the literature on the subject, such as H. H. Marriott's "Fixing of Rates and Fares," published by *The Railway Gazette* in 1910, is out of date. Within two years from the passing of the Transport Act, 1947, we should know how the Commission and the Transport Tribunal propose to exercise the powers conferred on them by Part V of the Act to prepare charges schemes. There will then be ample opportunity for discussion and for re-editing textbooks on transport economics.

* * * *

Overseas Railway Traffics

Leopoldina Railway receipts have shown a downward tendency since the first week in October, and during the fortnight ended November 15 have lost £17,118 compared with the previous year. On the aggregate, however, the company still shows an increase of £247,185. Entre Rios traffics declined by ps. 15,000 in the week ended November 15, and in the preceding seven days the gain was only ps. 3,400, so that the fortnight showed a decrease of ps. 11,600. Paraguay Central traffics have continued their upward trend of recent weeks, advancing G 11,170 in the fortnight ended November 7, and the aggregate decrease has been reduced to G 64,898. On the Central Uruguay, there have been decreases of £9,335 and £10,913 in the two weeks ended November 15, putting the aggregate result back to £100,700 behind 1946-47. The four principal Argentine Railways have recorded increases for both weeks of the fortnight under review. Some results are compared below:—

	No. of week	Weekly traffic	Inc. or dec.	Aggregate traffic	Inc. or dec.
Buenos Ayres & Pacific ...	20	2,600	+229	50,485	+6,221
Buenos Ayres Great Southern	20	3,551	+174	65,699	+1,314
Buenos Ayres Western ...	20	1,438	+239	27,729	+3,742
Central Argentine	20	3,579	+342	67,003	+4,689
		£	£	£	£
Canadian Pacific	39	6,943,250	+463,500	58,232,250	+4,570,500

The half-year to September 30 showed an aggregate increase of £14,625 in receipts of the Barsi Light Railway. Receipts in September were £5,362 above those of the preceding year.

* * * *

Lighting for Marshalling Yards

In these days, when so much depends on the rapid circulation of wagons, special interest attaches to experiments being undertaken by the Southern Railway in the illumination of the Hither Green marshalling yard. The trial installation, described elsewhere this week, consists of a 150-ft. tower supporting four groups of lights, two groups having tungsten filaments, and two being of the mercury discharge type. This experiment in high elevation lighting, which is particularly beneficial in minimising shadows between rows of wagons on adjacent sidings, can be traced back to a trial some time ago with a ring of lights suspended from a barrage balloon. Alternative types of permanent lighting mast are under consideration, and one design which has been proposed would adopt a ring of lights suspended over pulleys and controlled by a winch at ground level. This would give ready access for maintenance, and enable the height of suspension to be varied according to atmospheric conditions. Permanent masts would support a maximum of four projectors each. In making the tests, account has to be taken not only of satisfactory lighting in the yard, but also of the possibility of producing phantom signal aspects likely to mislead drivers of trains on the main running lines. Already, in fact, one type of fitting and reflector has had to be modified for this reason.

* * * *

Blanketing of Railway Tracks

The steady increase in the weight and frequency of the traffic passing over important main lines, together with the present serious shortage of labour, has emphasised the necessity for maintaining the track in first-class condition with the minimum of effort. Where the subsoil is of rock or compact gravel, comparatively little attention is required to keep the road in good fettle, but when the track rests on clay, it calls for far more attention, and, in extreme cases, the task of maintaining it is not only difficult and costly, but becomes progressively harder. In open country, the level of the rails can be raised by increasing the depth of the ballast, but where overbridges and stations occur, this expedient suffers severe limitations. In such cases, the difficulty can be overcome by excavating part of the clay, and imposing a blanket of more stable material, such as quarry waste, between the subsoil and the ballast. The stability of the track may be further increased by the use of concrete slabs under the ballast. In recent weeks, the Southern Railway has undertaken the blanketing of two sections of main-line track—at Clapham Junction, and at Paddock Wood. In the latter case, continuous possession could be granted to the engineers, as there are four lines through the station, but at Clapham Junction the work could proceed only at week-ends. We hope to make more detailed reference to this important subject at an early date.

* * * *

De-Icing on London Transport Railways

A considerable amount of progress has been made since last winter in the preparation by London Transport of ingenious devices to combat the difficulties of operating surface electric railways in frost and ice conditions, and, although all the special installations which it had been hoped to have installed will not be available because of difficulties in supplies, the system has never been so well prepared before. London Transport is now approaching the completion of its initial programme of installing 400 de-icing machines along the tracks, one of which was illustrated (on the Greenford line) in our October 24 issue, page 476. This device was described more fully in our November 21 issue, page 595. Provision of the apparatus on the remainder of the open sections of the system is scheduled for next year, and will involve a further 450 machines. Special sleet trains which spray anti-freeze liquid on the live rails and which crush and sweep away ice-film with cog wheels and wire brushes, are an important part of the provision for dealing with lines not yet fitted with de-icing machines. More points on the railways will be fitted with heaters this winter than last. These heaters keep the points from freezing by circulating electrically-heated oil through pipes in the track. On the signalling side, the principal difficulty is interference with working through the freezing of moisture in signal air mains. To obviate this, ethylene-glycol (the liquid used in the radiators of high-flying aircraft) has been injected into the mains.

* * * *

Educating the Young Idea

In the years before the war not a little had been done by British railways to interest the younger element in railway working and equipment, such as the G.W.R. half-day excursions to Swindon Works, the L.N.E.R. locomotive exhibitions at many different centres, and so on. The same idea has now spread to the United States, where some American railways are now beginning to realise that juvenile goodwill, if carefully fostered, may develop later into valuable adult support. Recently, the Chesapeake & Ohio Railroad organised six four-day tours on its system, each in a special train of six luxury coaches, three dining cars, and a Pullman sleeper for the doctor, nurse, and traffic representatives accompanying each party. In these trips 2,100 young Americans between 10 and 17 years of age, mostly from boys clubs or Scout groups, took part. A modest charge of $10 a head was made, and covered the rail travel, hotel accommodation on two nights out of three, pillows and blankets for the night in the train, all meals, and interesting tours of industrial plants, including the C. & O. locomotive shops at Huntington. All the industries approached co-operated whole-heartedly in the plan, as also did the schools, which allowed the necessary leave on condition that their boys wrote essays on their experiences. An unexpected but welcome reward for the C. & O. has been the receipt by the company, since these trips, of hundreds of requests from high schools and other organisations all over the system, and not all of them juvenile, for group tour facilities at ordinary fares.

Servicing Steam Locomotives in U.S.A.

The Norfolk & Western Railway has shown considerable enterprise in providing a new layout at ore of its most important running sheds (Williamson, W.Va.). The aim of the new arrangement is to permit all servicing operations to be carried out in a convenient sequence, in the style of assembly lines in a constructional erecting shop, so that no reversals of direction are necessary and the engines pass from one stage to another in one continuous movement. This necessitated a good deal of alteration to the track layout; but the most interesting details are those appearing in what is known as the engine service building, a brick and concrete structure 165 ft. long and 60 ft. wide. Here inspection pits are provided and 16 lubrication stations are installed, at each of which are hoses attached to pipe lines at ceiling level. Valve oil, engine oil, soft grease (for valve gear), semi-fluid grease (for certain roller bearings), hard grease (for connecting and coupling rods), and extreme-pressure oil (for coupling rods with roller bearings) are all available. Outside this building, at a washing platform, a paraffin-base cleaning oil is sprayed on the engine; a hydraulic ash-handling plant receives the ashes; and water columns are provided for filling the tender tanks. It is claimed that 456 engine-days per year are saved as a result of this improved layout.

* * * *

Trial and Error

ON page 608 we publish in full the statement made at a Press conference on Wednesday by Sir Cyril Hurcomb, Chairman of the British Transport Commission, regarding the plans for the reorganisation of the main-line railways on assumption of control by the British Transport Commission on January 1.

On the previous day Sir Cyril Hurcomb, in company with Lord Ashfield, Sir Eustace Missenden, Lord Rusholme, Sir William Wood, Mr. John Benstead, Mr. Miles Beevor and Mr. J. H. Brebner, held a meeting with Editors, when he read and commented on the statement and then invited observations and questions. We think the meeting served a useful purpose in elucidating the views and hopes of the Commission regarding its plans. In fact, we think similar meetings might be held from time to time to explain major developments, particularly as in future there will be no annual meetings of railway proprietors, when the Chairmen discoursed on the work and on achievements of their respective undertakings.

In our view, the most hopeful thought that emerges from reading the statement and listening to the observations at Tuesday's meeting is that the Commission is frankly approaching its work on a trial and error basis. It is definitely stated that the Regions are provisional and further Regions may be created later. Many will regret the disappearance of the names of the main-line railways, Great Western, L.M.S., L.N.E., and Southern, but it is contended that similarly sentimental arguments were put forward at the disappearance of many historic railway names in 1923.

Here are some other impressions:—The Chief Regional Officers are to be in no sense the successors to the present General Managers; in fact, the very words General as applying to Manager, or Great to railway are anathema. Standardisation is to be ruthlessly pursued. There will be no separate accounts or operating statistics for each Region or at any rate published ones. Nothing is disclosed as to disposal of a surplus, if any, after paying interest on the new Transport Stock. Will it be ploughed back in betterments, used for reduction in rates and fares, or go to the Treasury like the Post Office millions?

The six Regions "London Midland," "Western," "Southern," "Eastern," "North Eastern," and "Scottish" are identical with the Government grouping scheme of 1923 as first proposed. We still think that these geographical regions will not be a success. Now that on January 1 the financial difficulties of truncation of railway systems will no longer exist, the division of the British railway systems more on the lines shown in the diagram on page 605 would have been preferable. Nor do we understand the urgency for making any change so soon as January 1.

We have left to the end any comment on the most startling feature of the whole statement, *viz.*, that the Railway Executive will work largely on a functional basis. Each member is to be primarily responsible for certain departments of railway work and on the Chairman will devolve the general co-ordination of the work of the whole body. The functional Regional Officers will be responsible to and directed by the appropriate functional Member of the Executive who will be in direct relationship with them and give them instructions, guidance and leadership. It will be most interesting to see how this "short circuiting" of the Chief Regional Officers will work out in practice. Will it foster keenness or just a shrugging of the shoulders?

But apart from the effect on the Chief Regional Officers the scheme seems to place a superhuman responsibility on the six specialist Members of the Railway Executive, each with at least six specialist Regional Officers to "instruct, guide and lead," and the possibility of more regions to follow. Much will depend on whether these specialist Members of the Executive realise that there is seldom a best way of doing anything. What may be very good in the Southern Region may be quite the reverse in the North Eastern. But then won't they be getting up against standardisation?

Concluding their statement, the Commission and the Executive are confident that, relying on the knowledge and experience possessed by railway officers and staff, the problems which confront any undertaking at once so large and so widespread as British transport will be solved. In selecting a title for this editorial we have chosen "Trial and Error." The Commission and the Executive can be sure of one thing. They will have many trials. We hope they won't make too many errors.

* * * *

Looking Back on Grouping

WHEN the Government grouping proposals were under discussion in 1920 *The Railway Gazette* published an alternative grouping scheme. On this page we reprint a diagram and table which accompanied the article that appeared in our issue for November 26, 1920. We know that our scheme was seriously considered, Sir Eric Geddes having stated that the Government scheme was put forward as a basis for negotiation and criticism and alternative suggestions would be welcome. But after much discussion it was decided that the truncation of some railway companies' systems, involving a valuation of their physical assets, was too great an undertaking to be faced. We still think ours was a better scheme than the first Government scheme or that eventually adopted. The original Government scheme was for seven groups:—

(1) *Southern*, combining the South Eastern & Chatham, the Brighton, and the South Western.

(2) *Western*, the present Great Western system with the Welsh lines.

(3) *North Western*, combining the North Western, the Midland and the Lancashire & Yorkshire, North Staffordshire & Furness.

(4) *Eastern*, combining the Great Northern, the Great Central, and the Great Eastern.

(5) *North Eastern*, the present North Eastern system and the Hull & Barnsley.

(6) *London Group* (local lines); and

(7) *A Scottish Group* for the whole of Scotland.

It is interesting that after a lapse of 27 years it is announced that under nationalisation we are to have a North Eastern "region" and a Scottish "region." We still adhere to the views expressed in an editorial article in our October 10 issue, entitled "Regions or Railway Systems." Below we give some extracts from our article published in 1920, which we think have a certain interest even today, even if only the melancholy reflection, "It might have been."

In the scheme of grouping outlined, it is assumed that the running powers at present exercised by the line to be absorbed would be vested in the purchasing company, and certain joint workings would still be maintained. The Lancashire & Yorkshire Railway is an important local system with a network of lines serving the most important industrial district in the country; where not entirely local, its flow of traffic is largely east and west. Under the scheme of grouping here outlined

this system would preserve its identity and would become more efficient and important by acquiring portions of the Great Central and Great Northern systems.

Another point in this scheme is that it would simplify the matter of the future of the Cheshire lines, a system at present jointly owned by the Great Northern, Great Central, and Midland. Under the Government scheme the Great Northern and Great Central would be in one group and the Midland in another. Under the scheme here outlined, the Great Central and Great Northern interests would be sold to the Midland and the Cheshire lines to form an integral part of the Midland system.

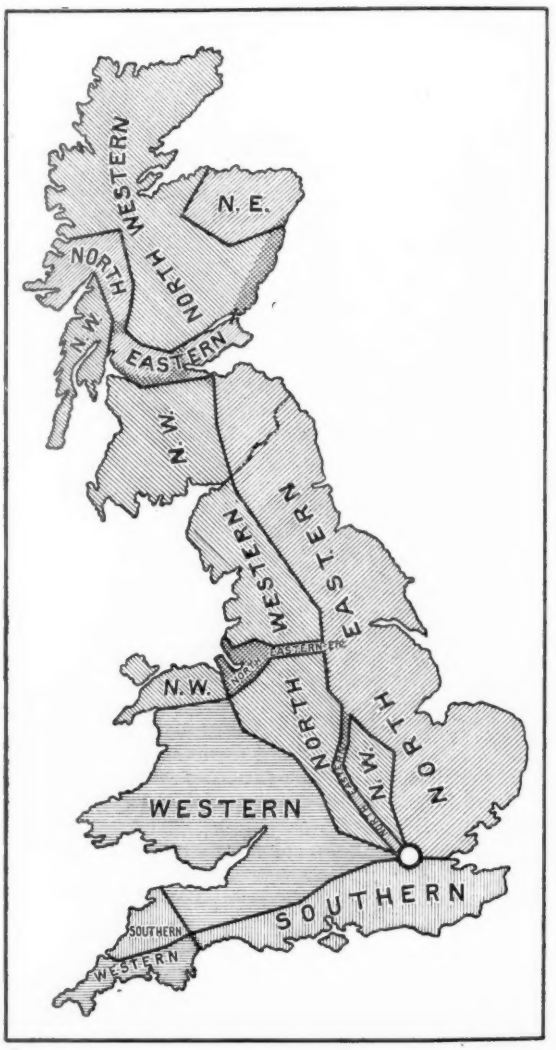
In suggesting the truncation of the Great Central Railway, no slight is intended on the railwaymen who made this system what it is today, and those who so ably manage and work it at the present time. It is, however, contended that instead of being placed *holus bolus* with the Eastern Group, the present stockholders and the purchasing companies would derive a far greater benefit than under the Government grouping scheme. The Great Central has very little in common with the Great Eastern. In fact, under the Government scheme the Eastern Group would be an entire misnomer, as we should find a large portion of the Eastern Group stretching up through the middle of England to Lancashire and Yorkshire serving portions of the North-West coast, and actually running into Wales!

Under the Government scheme the North-Western Group would comprise the North Western, Midland, Lancashire & Yorkshire, North Staffordshire and Furness Railways. The two latter could, it is true, be easily merged in the present North Western system, but, as already pointed out, the Lancashire & Yorkshire is a system of a special character. Moreover, the amalgamation of the Midland with the North Western, two railways organised and run on very different principles, would take years to consolidate into a satisfactory system, and it is doubtful whether the public would be as well served as it is at present.

The Glasgow & South Western Railway is a natural corollary of the Midland. Under the scheme of grouping here outlined there would still be a powerful system known as the Midland, a name which both traders and the travelling public appreciate as being synonymous with an efficient and enterprising transport agency. It would afford direct communication on one system between six great ports—Liverpool, Hull (by virtue of absorbing the Hull & Barnsley), Bristol, London, Glasgow, and Southampton—by exercising the running powers now vested in the Midland and South Western Junction Railway.

The suggested amalgamation of portions of the Great Northern with the North Eastern Railway, under the title of London & North Eastern Railway, is only a development that might well have taken place half a century ago, when the

The original Government grouping scheme



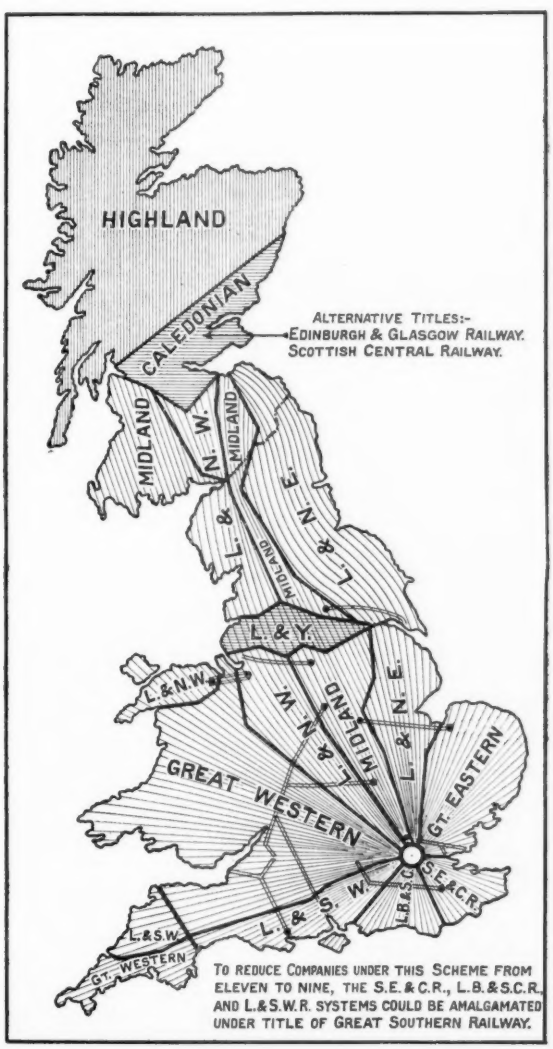
Present grouping

North Western and Great Western systems were being built up to their present size. Just as the absorption of the Glasgow & South Western with the Midland system would place under one control a trunk line from London to Glasgow, similarly, the Caledonian main line between Carlisle and Glasgow and Carstairs and Edinburgh would naturally form a portion of the London & North Western system. The North British Railway between Berwick and Edinburgh would likewise be absorbed by the London & North Eastern Railway, whilst the North British route between Carlisle and Edinburgh *via* Hawick and Galashiels would be merged in the Midland system, giving that company its own line to Edinburgh as well as Glasgow. The border lines of the North British Railway and those in Northumberland would naturally form portions of the London & North Eastern system.

The network of local lines at present belonging to the North British and Caledonian Railways in the industrial area of Scotland, namely, Renfrewshire, Lanarkshire, Stirlingshire, Fifeshire, etc., and up to Dundee and Aberdeen, would make a system analogous to that of the Lancashire & Yorkshire Railway in England.

The present Highland system, Great North of Scotland, Callander & Oban and the West Highland Railways would be merged in a system known as the Highland Railway, and have running powers both into Edinburgh and Glasgow. It may be argued that serving as it would a very sparsely populated territory, this would be a very "lean" group. But, on the other hand, the mere hiding of their "leanness" from public gaze by merging these systems in a Scottish group would not make them any less "lean."

In the Government grouping scheme the sixth group is entitled "London Group (Local Lines)." It is contended that no useful purpose would be served by such a group. Under the scheme here outlined, each of the lines running into London would continue to conduct its own suburban traffic. The North London Railway is already worked as a portion of the London & North Western system, and the District and the Tubes and the Metropolitan might well be left to develop their business as at present.


HIGHLAND
CALEDONIAN
ALTERNATIVE TITLES:-
EDINBURGH & GLASGOW RAILWAY.
SCOTTISH CENTRAL RAILWAY.
MIDLAND
N. W.
MIDLAND
L. & N. E.
MIDLAND
L. & Y.
L. & N. W.
L. & N. E.
MIDLAND
L. & N. W.
GREAT WESTERN
GT. EASTERN
L. & S. W.
L. B. & S. C.
S. E. & C. R.
L. & S. W.
GT. WESTERN
TO REDUCE COMPANIES UNDER THIS SCHEME FROM ELEVEN TO NINE, THE S.E. & C.R., L.B. & S.C.R. AND L. & S.W.R. SYSTEMS COULD BE AMALGAMATED UNDER TITLE OF GREAT SOUTHERN RAILWAY.

LONDON & NORTH WESTERN RAILWAY
(Approximate route mileage 2,800)

Old London & North Western system (except lines west of Craven Arms); North Staffordshire; Furness; Mayport and Carlisle; Cleator and Workington. Cockermouth, Keswick & Penrith; Portions of Caledonian, namely, Carlisle to Glasgow and Carstairs to Edinburgh.

MIDLAND RAILWAY
(Approximate route mileage 3,200)

Old Midland Railway (except lines west of Hereford); Glasgow & South Western; North British Railway (Carlisle to Edinburgh); Hull & Barnsley; Midland & South Western Junction; Stratford-on-Avon & Midland Junction; G.C.R. Lines (Woodford to Manchester, and Chesterfield and Sheffield to Lincoln); Cheshire lines.

LONDON & NORTH EASTERN RAILWAY
(Approximate route mileage 3,400)

Old North Eastern Railway system; present Great Northern Railway system, except lines west of Wakefield and Leeds; Great Central Railway, Lincolnshire lines (including Immingham and Grimsby); North British Railway, Berwick to Edinburgh and Border lines.

GREAT WESTERN RAILWAY
(Approximate route mileage 3,600)

Old Great Western Railway system; Local lines in South Wales (including London & North Western Railway, lines West of Craven Arms, and Midland lines west of Hereford); Cambrian Wrexham Mold and Connah's Quay; Wirral (and Great Central Railway lines in Wirral peninsula); Great Central Railway Joint line to Ashendon (Marylebone to be relief terminus for Birmingham and Birkenhead lines); Great Central Railway; Ashendon to Woodford and Banbury to Woodford.

GREAT EASTERN RAILWAY
(Approximate route mileage 1,400)

Old G.E.R. system; Midland & Great Northern Joint; Colne Valley, Southwold, Mid-Suffolk.

SOUTH EASTERN & CHATHAM RAILWAY
(Approximate route mileage 700)

Old South Eastern & Chatham Railway system; East Kent; Kent & East Sussex.

LONDON, BRIGHTON & SOUTH COAST RAILWAY
(Approximate route mileage 500)

Old London, Brighton & South Coast Railway system; Selsey Bill.

LONDON & SOUTH WESTERN RAILWAY
(Approximate route mileage 1,200)

Old London & South Western Railway system; Somerset & Dorset.

LANCASHIRE & YORKSHIRE RAILWAY
(Approximate route mileage 800)

Old Lancashire & Yorkshire Railway system; portions of Great Central Railway; and Great Northern Railway systems not absorbed in other systems, as above mentioned; Dearne Valley; South Yorkshire Joint.

EDINBURGH & GLASGOW RAILWAY
Alternative title—Caledonian Railway
(Approximate route mileage 1,500)

Would be the "Lancashire & Yorkshire Railway of Scotland," comprising those portions of the North British and Caledonian systems not taken over by the London & North Western, London & North Eastern and Midland systems (except as below).

HIGHLAND RAILWAY
(Approximate route mileage 1,000)

Old Highland system; West Highland Railway (north of Helensburgh); Great North of Scotland Railway; Callander & Oban Railway.

"The Railway Gazette's" grouping scheme published November 26, 1920

U.S.A. Railways and Coal Shipments

THE disorganised state of the export coal industry of Europe has given an enormous fillip to coal shipments from the U.S.A., and, moreover, the use of soft coal in America is growing. This outlook for the extended use of soft coal is favourable from the viewpoint of many of the Eastern railways of America, and an increasing demand will spell prosperity for the railways serving the Pocahontas Region. Exports to Europe exceeded 17,000,000 long tons in 1946, and the tonnage handled through the ocean terminal at Newport News of the Chesapeake & Ohio Railway was over 7,000,000. In 1947 the total export to Europe may be doubled, and the quantity shipped at Newport News is expected to surpass the previous peak of 10,350,000 tons reached during our 1926 coal strike.

In America these figures seem to be regarded as somewhat imposing. Actually they are far below the British shipments of 43,000,000 tons of cargo coal and coke in 1937; they are not within sight of our peak figures for 1924 and 1929. In the palmy days of the Durham mining industry, Tyne Dock alone shipped over 7,000,000 tons a year, and much of the coal went into vessels which were difficult to trim. Our overseas coal shipments declined in 1938 and came nearly to a full stop after the Government took control of the mines during the war. The prosperity of our railways and docks—and indeed of this country—depends in a large measure on the ability of the National Coal Board to restore our foreign export trade. Until it does so, American coal shipments will be maintained, in all probability, to the benefit of the Chesapeake & Ohio, which should have the funds needed to pursue its enterprising policies.

* * * *

Recent Trends in Structural Welding

THE name of Dr. Otto Bondy is well known to many readers of *The Railway Gazette*, and it was a tribute to his professional standing that when he gave his paper "Recent Trends in Structural Welding" to the Institution of Structural Engineers on November 13, every seat in the hall was filled and a good many persons were standing as well. Few persons could have been better qualified to give such a survey than Dr. Bondy, who dealt with developments in the U.S.A., Belgium, Switzerland, Spain, and Germany, in addition to this country.

At the outset, Dr. Bondy startled his hearers with the assertion that, after the unprecedented welding developments in this country during the latter part of the war, "a remarkable retrograde movement has set in." He supported his contention by a tabular analysis of electrode production in Great Britain, showing how the output of electrodes, in tons, rose from 11,720 in 1938 to 45,000 in 1944, and then declined to 34,200 in 1945 and a mere 21,000 in 1946. This took place despite the fact that the number of arc-welding plants in service was actually greater, at 68,500, in 1946 than in 1944, when the number was 60,000. Dr. Bondy did not mention the large number of resistance-welding plants brought into use during the war, which nevertheless could add greatly to the output of welded products without affecting the electrode figures at all. He was, however, more cheerful about welding prospects when reviewing the world trends as a whole.

Since 1930, structural welding on the Continent, particularly in Germany, has had a most successful run, in which the Reichsbahn, then the largest user of structural steelwork, played a great part. It is interesting to note that of the world's 1,000 or so welded bridges built up to 1939, 650 were in Germany; this country and the U.S.A. could muster only about a dozen apiece.

On the Continent, however, far greater incentives existed for the production of high-quality designs. To begin with, the designer was university-trained. He was encouraged to follow new instead of orthodox ideas in his designs. More care, time, and money were devoted to the development of really good structures than here or in the U.S.A. The importance of high quality cannot be over-emphasised; at the present time it is vital for our existence, for, as Dr. Bondy pointed out, only high quality can keep our export markets open.

More attention to the education and training of the designer and the draughtsman will yield good dividends. The designer is the keyman in the change-over from riveting to welding. A good design nowadays must be independent of orthodox types of welded structures; the advantages of the rigid frame and continuous structure are generally understood. The draughtsman will be helped when structural welding is included in technical college courses. The greater use which should be made of the cross-plate type of joint, with its attractive simplicity, is an example of the taste which has to be developed.

Structural welding research must play its part concurrently in this programme. "There is unlimited scope for structural welding research in this country," states Dr. Bondy. As an example from the Continent of the usefulness of organised research he cited the report of M. Ros, of Zürich, on twelve years' welding research in Switzerland, covering such important aspects as the strength and safety of welded joints, the increase in permissible stresses in welded plate-work, and the advantages of "spiral" butt welds positioned at 45 deg. to the direction of stress. Again, in Germany just before the war, when certain parts of welded bridges made from "steel 52" had failed, a realistic series of tests under fatigue loads established the superiority of the T-section flange to the ribbed flange for the girders used. Strain analysis with the help of plastic models is a worthwhile aid to the designer.

Mass-production is now a recognised possibility in welded construction. Wartime needs urged the Germans to develop the so-called "R-beams" from the Havemeyer girder; and the results would seem to justify study of them in this country. In the U.S.A. roof trusses of broad-flange beams have been mass-produced. There are no gussets or stiffeners, and the top chord can take purlins at any point. The same standard jigs can be used with sections of different depths; an example was cited of 1,400 mass-produced trusses used in standard single-story buildings; a saving in weight of 20 per cent. is claimed. Another aid to satisfactory design is the manufacture of broad-flange beams in this country. Their higher lateral rigidity makes them superior to rolled-steel joists; their square edges and parallel flanges are specially suited to welded connections.

Dr. Bondy did not shrink from discussing some of the major failures of welded construction—as he said, failures are perhaps the most effective stimulus to progress. In 1938 the Hasselt bridge in Belgium collapsed—the first complete failure of a welded bridge. Two Berlin bridges showed failures without actually collapsing. In the 10,000-ton Liberty ships serious failures have been recorded. In all the foregoing examples, however, additional knowledge achieved more recently probably would have enabled failure to be avoided.

To measure the economy due to welding, Dr. Bondy gives as a criterion a "weld-weight factor," namely, the ratio of weight of welds to weight of steel. Costs of structures are rarely on strictly comparable bases, but such an example occurs in the two-pin rigid frames of 60-ft. span for a subway at Duisburg; 27 frames were riveted and 21 welded. The comparison showed a saving of 26 per cent. in steel, and about the same in cost, in favour of welding.

A recent example of the "overall economy" given in tabular form by Dr. Bondy aroused such interest that it may be repeated here. Design A, for a particular building framework, although it contained 9 per cent. more steel by weight than design B, was accepted, because it actually cost less.

	Design A, welded two-pin frames	Design B, welded roof trusses	Difference A—B
Steelwork, tons ...	282	258	+24
Excavation, cu. yards	385	1,075	−690
Concrete, cu. yards ...	355	476	−121
Shuttering, sq. yards...	175	645	−470
Steel reinforcement, tons	1	15	−14

Dr. Bondy gave examples of many modern welded structures—rigid frame buildings, plate-girder bridges, and bridges of lattice-girder and arch construction. "Stabbogen" and "Vierendeel" bridges were also described, as was the Bailey Bridge for military purposes. In conclusion, he showed a most instructive film of the erection of 80-ft.-span rigid frames for a factory building for Whessoe Limited, to which he had acted as Consulting Engineer. He expressed the opinion that in the future, competition from other materials, already discernible, would make itself felt still more—light alloys, reinforced concrete, pre-stressed type structures, and shell construction might well be still more important when the sellers' market becomes a buyers' market, and quality, price, and design achieve new levels of influence.

Left- and Right-Hand Running

A LETTER from Mr. Otto Radke, of the Minnesota Railroad & Warehouse Commission, published elsewhere in this issue, raises an interesting point relating to right-hand running, of which completely satisfactory information is not available, principally by reason of the great antiquity of the divergence in practice. As public railways in their origin were virtually a special form of toll road, doubtless the highway "rule of the road" was responsible for the early adoption of left-hand running in Great Britain where such practice has been, and is, customary. This rule of the road is believed to have its origin in the rules laid down by the Papal authorities to regulate road traffic at the time of the Crusades, when for the first time road traffic assumed substantial proportions. There is, however, reason to believe that the Roman Empire previously had a code.

In more recent years, divergence is alleged to have resulted from deliberate difference in practice in those countries which did or did not continue to acknowledge Papal influence at the time of the Reformation. Apart from Great Britain and Ireland, road traffic in most countries now keeps to the right, but right- or left-hand running on the railways in many cases fails to correspond with the street traffic rules of the country. This may be accounted for by the pioneer railway-building activities of British engineers a century and more ago. Certain European countries, such as France, Belgium, and Italy, copied George Stephenson's practice on the Liverpool & Manchester Railway in adopting left-hand running.

At the present time trains run on the left-hand track, that is, they pass those travelling in the opposite direction on the right hand, in Great Britain and all countries of the British Commonwealth (except Canada), in South America, China, Egypt, and Japan, and, among European countries, in Austria and her succession states (with the exception of some sections of line), Belgium, France (excepting Alsace-Lorraine and on the Paris Metro), Hungary, Italy, Portugal, Sweden, and Switzerland, and on the Northern Railway of Spain. Right-hand running is in force in Canada, the U.S.A. (excepting on the Chicago & North Western), Soviet Russia, Turkey, and (in Europe) the Baltic States, Denmark, Finland, Germany, Holland, and Norway, and on the M.Z.A. of Spain.

The reason for the divergence of practice of the Chicago & North Western is that this was originally an English-financed railway. There was once another exception in the U.S.A., namely, the Lake Shore & Michigan Southern, now part of the New York Central System, which was changed over to right-hand running about 1909-1910.

For many years the London & Greenwich Railway was worked right handed, but was changed over on May 26, 1901. In earlier years, the Newcastle & Carlisle was a right-hand railway, but made the changeover on March 7, 1864. The point-and-crossing, signalling, and other difficultes associated with a change have always proved deterrents, and proposals to change to right-hand running, which have been entertained from time to time in Switzerland, have not been pursued in consequence.

Incidentally, although the left-hand rule is standard throughout Great Britain, the driving position is not. Most railways use the left-hand driving position on the footplate, excepting the Great Western Railway, on which system right-hand driving is universal.

Publications Received

Ride With the Driver. By Alan Buck. London: Quality Press Limited, 18, Adam Street, W.C.2. 8¼ in. × 5¾ in. 56 pp. Illustrated. Price 6s.—At any of our railway termini, small boys often may be seen viewing a steam locomotive with considerable wonderment, and perhaps approaching the footplate to gaze at its array of fittings with some temerity. In this book, by means of a simple straightforward text, backed up by illustrations and drawings, the author has revealed for the younger reader, the mysteries of the footplate and the working of a steam locomotive. The way steam power is generated and used to propel a locomotive, the working of brakes, and Automatic Train Control are explained, and are followed by an imaginary run on the footplate of a G.W.R. locomotive, in which the footplate fittings and the work of the driver and fireman are described. The author has succeeded in explaining clearly to the younger reader a subject which because it involves technical matters, is often difficult for such persons to understand.

The Railway Handbook, 1947-1948. London: The Railway Publishing Co. Ltd., 33, Tothill Street. S.W.1. 8½ in. × 5½ in. 128 pp. Price 5s.—The present edition of this useful collection of facts and figures (the 14th) has been issued at an epoch-making moment in the history of British Transport. Under the Transport Act of August 6, the British railway system, and a large portion of the road transport of the country, will be brought under national ownership. So far as concerns the railways, the date of transfer is January 1, 1948, and therefore the present edition will be the last to contain details of the individual companies in their present form. It should thus be of historical as well as current interest. Substantial additions and alterations have been made in the statistical details. New or revised tables are included of the development of the world's mileage; the principal altitudes on the world's railways (with graphs); extended details of the world's longest railway tunnels; a new section on North American railway tunnels; some outline scale drawings and details of noteworthy bridges and viaducts; a new section on oil fuel for locomotives; and post-war details of the preservation of historic locomotives and rolling stock. The chronology of railway history has been extended in the earlier years (principally about 100 years ago), and also has been brought up to date. An abridged but thoroughly up-to-date bibliography of railway literature (first introduced last year) is included. This and other changes should combine to make the present volume of particular utility.

The Application of Electro-Osmosis to Practical Problems in Foundations and Earthworks: Building Research Technical Paper No. 30, by Dr. L. Casagrande of the Department of Scientific and Industrial Research. Published by H.M. Stationery Office, 1947. 10 in. × 6 in. 16 pp. Illustrated. Paper covers. Price 9d.—The application of electrical drainage to problems of stabilising excavations and cuts in fine-grained waterlogged soils should appeal to railway engineers. Dr. Casagrande's paper deals with both laboratory and practical experience of this method of drainage, based on the principle that when electrodes are sunk in waterlogged soil the water is drawn from the (positive) anonode to the (negative) cathode, which is designed as a drainage well from which the water can be pumped.

In one instance it was found impossible to excavate a cutting required for a double-line railway due to the high level of the ground water throughout a length of about 330 ft. Ten well electrodes 24 ft. long and 4 in. in dia. were spaced at 33-ft. intervals along the top of the stretch to be tested and on both sides of the cutting site, and rod electrodes, of ½-in. gas piping and the same length, were placed between them. When a 180-V potential—afterwards reduced with equally good results to 90 V—was switched on, the quantity of water flowing into the wells was increased 150 times throughout a period of 24 hr. Whereas previously an excavator could not be used anywhere near the cutting—as it would have tilted over and sunk in the semi-liquid soil—it could subsequently be used wherever desired. Similarly, deep foundations for a road overbridge over the railway were made possible, almost vertical excavation being made, and no uplift of the floor of the excavation occurring. Extensive removal of moisture from large masses of soil is not claimed for this method, but the important achievement is that, by proper placing of the electrodes, the flow of water can be directed away from the face of a cut. This should be valuable to maintenance as well as construction engineers. The paper is lavishly illustrated with photographic reproductions and diagrams.

Indian Railways, A Cameo-Study by I. A. Panikar, M.A. Bombay. June, 1947. Printed at *The Times of India* Press but published by the author. 9 in. × 5½ in. 46 pp. Price Rs. 1/8 (about 2s. 3d.). The author's object in preparing this—as he calls it—thumb-nail sketch of India railways is to stimulate in the average citizen of India an intelligent interest in the future of this great transport industry. The book opens with a brief history of the railways generally and individually and describes their system of management and control. Under the heading "Railway Operation," the activities of the various departments—and sub-departments such as steamers and harbours—are outlined. Railway accounts and finance, rates and fares, and some outstanding railway problems complete the subjects dealt with. There is much interesting and instructive reading in this little volume.

British Transport Commission: Railway Organisation

Statement by Sir Cyril Hurcomb, G.C.B., K.B.E., Chairman of the British Transport Commission

SIR CYRIL HURCOMB, G.C.B., K.B.E., Chairman of the British Transport Commission, on Wednesday announced the plans of the Commission in connection with the assumption of control of the railways on January 1 next year. He said:

It is the desire and intention of the Commission to make to the appropriate Executive an extensive delegation of powers and duties relating to the management and operation of the various parts of the Commission's business which, nevertheless, will form one undertaking.

The Commission and the Executive

On and after January 1, 1948, the Government control of the railways, which began as a war emergency measure in September, 1939, will come to an end. The four main-line railways, together with various joint lines and small railways, will, under the Transport Act, pass into the ownership of the British Transport Commission.

The Commission is a small body consisting of five full-time Members and one part-time Member. It will be mainly concerned with questions of policy, including general financial control, the preparation of schemes relating to fares, rates and charges under Part V of the Act, the supervision of research and development, and the arrangements for the co-ordination of inland transport. It is the general duty of the Commission to see that there is an efficient and properly integrated system of transport throughout Great Britain.

The management and operation of the railways will be in the hands of the Railway Executive, the body established under the provisions of Section 5 of the Act as the Commission's agent to assist it in the discharge of its functions.

The unified railway system will be described shortly as "British Railways."

Headquarters Organisation of the Executive

The Members of the Executive have been appointed by the Minister of Transport after consultation with the Commission. The names of the Members of the Executive and their special responsibilities are set out below:—

Sir Eustace Missenden (Chairman).
General Sir William Slim, Public Relations, Stores, Estate.
Mr. W. P. Allen, Staff & Labour Negotiations & Welfare.
Mr. David Blee, Passenger, Freight & Commercial Development.
Mr. V. M. Barrington-Ward, Operating & Marine.
Mr. J. C. L. Train, Civil Engineering & Signalling.
Mr. R. A. Riddles, Mechanical & Electrical Engineering.
Sir Wilfrid Ayre (part-time).
Mr. C. Nevile (part-time).

The two part-time Members of the Executive will assist the full-time Members mainly in commercial relations, Sir Wilfrid Ayre having a particular interest in Scottish affairs.

It will be seen that each Member of the Executive has special functional responsibilities. The Headquarters organisation of the Executive will follow these functional divisions, though the Executive will, as a body, be responsible collectively to the B.T.C.

In the case of the Railway Executive, it is proposed to make the instrument of delegation as comprehensive in form as possible so that as between the Executive and the public or the staff no question may arise as to the extent of the rights, powers, and liabilities which are to be treated as rights, powers, and liabilities of the Executive. The Executive will, in fact, have a wide discretion in regard to the management, maintenance, and administration of the railways, subject always to such specific directions as the Commission may give from time to time. The public will deal direct with the Executive in the place of the present companies. The Executive (not the Commission) will be the employer of the staff. It will be the body which enters into contracts and sues or is sued in Courts of Law.

But whilst there must be the closest co-operation between the Commission and the Executive, the organisation of the Executive must avoid the dangers of undue centralisation and provide a machinery for the quick recognition of local needs and local contacts. On the one hand, the advantages of unification will be fully secured; on the other hand, there will be such a sub-division of the unified system and such a distribution of functions as will meet the other requirements.

It is proposed therefore to provide for the considerable changes to the present railway organisation required by the Transport Act by the immediate creation of the following six regions:—

1 *The London Midland Region.* Headquarters: Euston. Corresponding to the system of the London Midland & Scottish Company in England and Wales.

2 *The Western Region.* Headquarters: Paddington. Corresponding to the system of the Great Western Railway.

3 *The Southern Region.* Headquarters: Waterloo. Corresponding to the system of the Southern Railway.

4 *The Eastern Region.* Headquarters: Liverpool Street. Corresponding to the Southern area of the London & North Eastern Railway. (Roughly from Doncaster to Leeds and London.)

5 *The North-Eastern Region.* Headquarters: York. Corresponding to the North-Eastern area of the London & North Eastern Railway. (From Doncaster to Berwick.)

6 *The Scottish Region.* Headquarters: Glasgow. Corresponding to the Scottish systems of the London Midland & Scottish and the London & North Eastern Railways.

Map issued by Commission showing broad outline of first Regions

These regions are provisional and further regions may be created later.

Regional Organisation

The Railway Executive will work largely on a functional basis, and is suitably composed for that purpose, each Member accepting primary responsibility for certain departments of Railway work, and the Chairman for the general co-ordination of the work of the whole body. The same functions have to be discharged at Regional level, except insofar as it may be necessary to concentrate at the centre certain functions such as finance, rating, law, medical services, and police.

The functional Regional Officers, therefore, will be responsible to and directed by the appropriate functional Member of the Executive, who will be in direct relationship with them and give them instructions, guidance, and leadership. Responsibility for the general administration of the Regions, as well as for co-ordination, standardisation, and other questions of principle, will remain with the Executive. But the Regional organisation will be such as to enable matters of local importance to be disposed of quickly at that level, within the powers delegated to Regional Officers.

To ensure this, there will be in each Region a highly responsible Chief Officer co-ordinating the work of the Regional Officers. A cross-tie will be created so that the Officers of each Region can work together as a team, and so that decisions of regional application, even if they affect more than one department, can be taken locally.

Accordingly, in each Region, as from January 1, an Officer will be appointed under the title of Chief Regional Officer (Railways), whose main responsibility will be to secure that the policies laid down and the general instructions issued by the Executive are made effective. He will have the rights of initiative and general oversight necessary to secure that the administration of his Region is carried on economically and efficiently, and with due regard to safety of operation.

He will deal, where necessary, with appeals on disciplinary questions, and with promotions and appointments in the higher grades after consultation with the departmental Regional Officer concerned.

He will consult with the corresponding Chief Officers of other Regions and with other Executives at Regional level. In railway matters he will represent his Region on public questions, and on the Consultative Committees to be set up by Section 6 of the Transport Act.

Minor Railways and Joint Lines

It is intended that as from January 1 the administration of minor railways and joint lines will be merged in that of one or other of the Regions specified above, or in that of the London Transport Executive (corresponding to the present undertaking of the London Passenger Transport Board).

Ancillary Undertakings

The main ancillary activities of the main-line railway companies, such as ships, and for the time being docks and hotels, will remain under the management of the Railway Executive.

It is contemplated that the management of those ordinary trade harbours which are at present owned by the railway companies will be transferred to the Docks & Inland Waterways Executive as soon as this can be conveniently done, and the arrangements necessary to this end are already under examination between the two Executives. The future arrangements for the management of the railway-owned hotels are being considered.

General Responsibility of the Staff

All railway officers, with the exception of Chief Officers and any others to whom direct instructions are issued, will, as from January 1, 1948, continue to exercise their present functions, and their responsibilities to their departmental chiefs or supervisors will remain unaltered.

The Objects of the New Organisation

The Commission and the Executive have been anxious to avoid on January 1, 1948, changes which may be necessary later, but which might dislocate or interfere, even temporarily, with the day-to-day operation of the railways, if introduced at short notice and in mid-winter when operating difficulties are at their greatest. But their object is to unify the British railway system in a very real sense, and, in doing so, to create an organisation which will avoid the dangers of undue centralisation and provide adequate machinery for local contacts and the quick recognition of local needs. This will involve substantial adjustments between the boundaries of the present systems of the four main-line companies, though many of the existing operating and commercial sub-divisions of those systems may require little or no alteration.

In the planning of these further and more detailed steps in organisation, numerous considerations will have to be borne in mind, including, in addition to those already mentioned, the flows of traffic, and the areas within which other forms of transport may be organised. The Commission and the Executive relying on the knowledge and experience possessed by railway Officers and staff are confident that the problems which, here as elsewhere, confront and must always confront any undertaking at once so large and so widespread as that of the British Transport Commission will be solved.

The decision to create a Scottish Region is notable and the Commission and the Executive share the view that it will be practicable by January 1 to introduce a unified system of management in Scotland.

This concluded Sir Cyril Hurcomb's statement.

Message to Railway Personnel

The British Transport Commission and the Railway Executive have sent the following message to all the personnel of the Railway Executive:—

"The Commission and the Railway Executive fully appreciate the difficulties which railwaymen of all grades are experiencing in the operation of the railways in this time of stringency and stress. They know that magnificent work is being done and will continue to be done by all sections of the staff to serve the travelling public, and to meet the needs of industry. Railwaymen are rightly proud of the great tradition built up by their companies in the past. The Commission and the Railway Executive desire not merely to maintain those traditions, but to strengthen and unite them under British Railways.

CYRIL HURCOMB,
Chairman, British Transport Commission
EUSTACE MISSENDEN,
Chairman, Railway Executive

Regional Officer Appointments

Sir Cyril Hurcomb, Chairman of the British Transport Commission, announced the following appointments to the Railway Executive:—

The London Midland Region
Chief Regional Officer: Mr. G. L. Darbyshire.
Deputy Regional Officer: Mr. T. W. Royle.

The Western Region
Chief Regional Officer: Mr. K. W. C. Grand.

The Southern Region
Chief Regional Officer: Mr. John Elliot.

The Eastern Region
Chief Regional Officer: Mr. C. K. Bird.

The North Eastern Region
Chief Regional Officer: Mr. C. P. Hopkins.

The Scottish Region
Chief Regional Officer: Mr. T. F. Cameron.
Deputy Regional Officer: Mr. T. H. Moffat.

Magnitude of the British Railway System

The following statement showing the magnitude of the British railway system and the railway statistics set out on the next page, divided over the newly-announced regions, were also issued by the British Transport Commission.

The British Railways as vested in the British Transport Commission will rank as the most important unified railway system in the world. It is a system with a staff of 635,000 men and women. The mileage of its track, 52,000 miles, would encircle the world more than twice. Its trains, running 373,000,000 miles a year, carry over 1,200,000,000 passengers. It has 20,000 locomotives, 40,000 carriages and over 600,000 wagons. Approximately 600,000 privately-owned wagons will also be taken over by the Commission. It carries 226,000,000 tons of merchandise a year, more than half of which is coal.

RAILWAY STATISTICS—YEAR 1946

LONDON MIDLAND REGION

Headquarters : Euston

Corresponding to the system of the London Midland & Scottish Railway Company in England and Wales.

Track mileage	
Single track including sidings	15,286
Route mileage	4,993
No. of staff employed	207,003
Originating revenue tonnage—	
Merchandise & livestock	19,480,194
Minerals & merchandise (Classes 1-6)	18,944,009
Coal traffic	52,790,350
Total	91,214,553
Originating passenger journeys (including season tickets)—	
First class	10,781,850
Third class	335,729,345
Total	346,511,195
Train miles—	
Coaching	63,514,125
Freight	45,769,187
Total	109,283,312
Wagon miles—	
Loaded	1,229,233,533
Empty	447,755,083
Total	1,676,988,616
No. of hotels	15
No. of steamboats	32

NORTH EASTERN REGION

Headquarters : York

Corresponding to the North-Eastern area of the London & North Eastern Railway. (From Doncaster to Berwick).

Track mileage—	
Single track including sidings	5,432
Route mileage	1,823
No. of staff employed	57,776
Originating revenue tonnage—	
Merchandise & livestock	7,106,393
Minerals & merchandise (Classes 1-6)	8,105,900
Coal traffic	26,339,700
Total	41,551,993
Originating passenger journeys (including season tickets)—	
First class	1,663,561
Third class	60,339,234
Total	62,002,795
Train miles—	
Coaching	15,377,597
Freight	13,773 448
Total	29,151,045
Wagon miles—	
Loaded	328,563,796
Empty	116,313,255
Total	444,877,051
No. of hotels	5
No. of steamboats	Nil

EASTERN REGION

Headquarters : Liverpool Street

Corresponding to the Southern area of the London & North Eastern Railway (Roughly from Doncaster to Leeds and London).

Track mileage—	
Single track, including sidings	8,223
Route mileage	2,836
No. of staff employed	104,694
Originating revenue tonnage—	
Merchandise & livestock	9,148,165
Minerals & merchandise (Classes 1-6)	9,191,081
Coal traffic	22,322,742
Total	40,661,988
Originating passenger journeys (including season tickets)—	
First class	3,487,888
Third class	170,774,502
Total	174,262,390
Train miles—	
Coaching	36,900,815
Freight	24,708,356
Total	61,609,171
Wagon miles—	
Loaded	642,028,568
Empty	270,297,651
Total	912,326,219
No. of hotels	14
No. of steamboats	17

WESTERN REGION

Headquarters : Paddington

Corresponding to the system of the Great Western Railway.

Track mileage—	
Single track, including sidings	9,315
Route mileage	3,782
No. of staff employed	113,601
Originating revenue tonnage—	
Merchandise & livestock	11,370,013
Minerals & merchandise (Classes 1-6)	7,715,034
Coal traffic	22,277,214
Total	41,362,261
Originating passenger journeys (including season tickets)—	
First class	3,734,688
Third class	150,358,696
Total	154,093,384
Train miles—	
Coaching	38,625,859
Freight	23,195,429
Total	61,821,288
Wagon miles—	
Loaded	610,413,937
Empty	175,307,909
Total	785,721,846
No. of hotels	6
No. of steamboats	11

SOUTHERN REGION

Headquarters : Waterloo

Corresponding to the system of the Southern Railway.

Track mileage—	
Single track, including sidings	5,680
Route mileage	2,250
No. of staff employed	74,379
Originating revenue tonnage—	
Merchandise & livestock	4,115,605
Minerals & merchandise (Classes 1-6)	1,458,771
Coal traffic	3,043,453
Total	8,617,829
Originating passenger journeys (including season tickets)—	
First class	9,101,332
Third class	389,311,056
Total	398,412,388
Train miles—	
Coaching	55,636,849
Freight	7,424,664
Total	63,061,513
Wagon miles—	
Loaded	171,384,508
Empty	58,698,134
Total	230,082,642
No. of hotels	7
No. of steamboats	31

SCOTTISH REGION

Headquarters : Glasgow

Corresponding to the Scottish systems of the London Midland & Scottish and the London & North Eastern Railways.

Track mileage—	
Single track, including sidings	7,687
Route mileage	3,730
No. of staff employed	74,138
Originating revenue tonnage—	
Merchandise & livestock	9,305,912
Minerals & merchandise (Classes 1-6)	6,898,113
Coal traffic	19,522,751
Total	35,726,776
Originating passenger journeys (including season tickets)—	
First class	6,236,810
Third class	79,803,726
Total	86,040,536
Train miles—	
Coaching	24,908,214
Freight	21,455,399
Total	46,363,613
Wagon miles—	
Loaded	465,228,553
Empty	136,500,073
Total	601,728,626
No. of hotels	19
No. of steamboats	13

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

British Equipment for American-Built Coach

J. Stone & Co. Ltd.,
Deptford, London, S.E.14, November 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Referring to the Budd compressed steel coach article appearing in your November 21 issue, we feel that it would be of interest to your readers to know that the pressure ventilating and heating system, together with the lighting system and fittings installed on the American-built prototype coach, is of British design and British manufacture. The above equipment is of Stone's design and was supplied by us to America for installation. We would add that it is virtually the only British-made equipment on the coach.

Yours faithfully,

A. MAHONEY
Publicity Department

Private Ownership of Wagons

Charles Roberts & Co. Ltd.,
Horbury Junction, nr. Wakefield, November 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Many people without real knowledge of the subject have endeavoured to make the public believe that the ownership of private wagons was not a good thing for the country.

In common fairness, let it be known that the private owners maintained a fleet of 50 per cent. of all the wagons in this country—nearly 600,000. Owing to the unavoidable fluctuations of trade there were many times when as many as 100,000 of those wagons were standing idle at the expense of the respective owners, but immediately available to meet boom periods. The railway companies and others at once had the benefit, and particularly availed themselves of those wagons to carry harvest traffic, such as beetroot and potatoes, when otherwise they could not possibly have handled the traffic.

On balance, and with all the pros and cons in mind, I am prepared to contend the private ownership of those wagons has rendered a great national service. It remains to be seen whether nationalisation can provide a cheaper or a better service.

Yours faithfully,

DUNCAN BAILEY

Relating Rates to Risks

"Ladbrook," Ladcastle Road,
Uppermill, nr. Oldham. November 22

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In your issue of November 7 you refer to the statement made by Mr. Alfred Barnes in the House of Commons, on the question of the sums paid out by the railways in compensation claims in the years 1938 and 1945 respectively.

A point which has struck me forcibly is the degree to which *complete* emphasis appears to have been laid on the need to reduce the incidence of pilferage and theft. Obviously, this is a matter for grave concern, but it is also interesting to note the extent to which the *cost* of the average claim has increased.

On the basis of the figures quoted, the claims paid out by the railways in 1945, taking the 1938 average cost per claim, would have amounted to only about £770,000, as compared with the £2,525,405 actually expended. Conversely, the number of claims met in 1938, charged at the 1945 average cost per claim, would have entailed a loss of revenue of more than £600,000 in place of the £180,462 paid out!

The fact of the matter is, therefore, that the railways' liability for an average claim increased nearly *three-and-a-third* times from 1938 to 1945, whereas, even today, freight charges represent an increase of only 55 per cent. over pre-war, to cover added railway costs *under all heads*.

An anomaly would seem to exist in that quite a lot of the more valuable consignments, of the type which are apt to be "lost" these days, are being carried at what appear to be ridiculously low rates. I recently heard, for example, of a consignment of ladies' lingerie sent from Manchester to London. It consisted of six cartons, and the total weight was one hundredweight. Certain items were pilfered from it in transit, and for these alone more than £50 was paid out in compensation. The whole consignment was worth several hundred pounds sterling, yet the rate charged was just about 4s. 7d. This was at company's risk, and included collection and delivery.

This is only one instance of many which could be quoted covering cloth, clothes, tobacco, wines, spirits, and other items, all of which at present make a great appeal to "black market" operators, and which might be regarded as the "vulnerable" commodities. In all these cases, whilst the charges levied may be reasonable to cover normal transit costs, it is open to question whether they really compensate the railways for the big risk which is taken in accepting *custody* of the goods.

Were railways not to accept liability for loss or damage, consignors would have to insure themselves in the normal course. The premium paid then would bear a direct relation to the value insured. Would it be inappropriate, I wonder, for railways to adopt a similar scheme? The position might, perhaps, be met by an insurance surcharge on "vulnerable" traffic, above a certain value.

I would emphasise that there is nothing in what I have said which is intended to detract from the prime necessity to eliminate the *cause* of claims arising on the railways. So long as conditions of general shortage exist, claims on the railways will continue to be heavy, and it is a question of whether some expedient should not be adopted to meet the position.

Yours faithfully,

T. A. GERMAINE, O.B.E.

Left- and Right-Hand Running

Minnesota Railroad & Warehouse
Commission, State Office Building,
St. Paul 1. November 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In the United States all railway trains operating on double-track lines except those of the Chicago & North Western Railroad pass each other on the right-hand tracks. Those of the Chicago & North Western pass on the left-hand tracks.

Recently in an open forum column of a local newspaper it was explained that the left-hand passing rule was adopted by the North Western System as it permitted the engineers of passing trains to recognise each other, thereby confirming information in train orders.

Certain readers took exception to the reasons advanced and stated that the North Western adopted the left-hand rule because it was in use in Great Britain and was suggested by certain British and Holland investors in the line.

The Chicago & North Western Railway Company was incorporated under the laws of the State of Illinois on February 19, 1859.

The writer would greatly appreciate and thank you for any information you may have as to why trains pass on the left in Great Britain and if you have any information to clarify the North Western practice in the United States.

Yours very truly,

OTTO A. RADKE,
Transportation Rate Expert

[We deal with this subject on page 607.—ED., *R.G.*]

Railway Wagon Shortage

Hampstead, November 22

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In the article on page 575 of your November 21 issue, Sir Stafford Cripps is reported to have said that "the introduction of the 5-day week in industry had added to the railway problem, because the non-availability of staff at week-ends to discharge wagons had immobilised large numbers for two or three days." How the loss of 4 or 5 hours unloading time on Saturdays could bring about such a state of affairs surely calls for a proof, supported by statistics!

The 5-hour day has had no serious effect in the United States, where the railways are as short of wagons as are our lines. American rolling stock was overworked during the war, and the railways need 300,000 new wagons because 70 per cent. of the existing wagons are over 15 years of age. Yet, during the first 43 weeks of this year, they had loaded 8 per cent. more wagons than in the corresponding period of 1946, and the October, 1947, figure of 12½ days for the average turnround time of wagons was the lowest on record. Of the 13 regional boards, which dealt with matters concerning wagon supply in the States, all but one are satisfied that the 5-hour day has had little or no effect on the situation.

It is also remarkable that the regional boards, with three exceptions, consider that penal demurrage charges do not accomplish the desired result of prompt unloading. These boards are practical bodies using red-hot statistics of wagon loadings and prospective traffics. The setting up of similar machinery in the industrial regions of Great Britain would do more to improve the turnround of wagons than any "virile publicity campaign" will ever effect.

Yours faithfully,

STATISTICIAN

XUM

The Scrap Heap

G.W.R. Train Inquiry Girls Make Toys

In response to the London Hospitals' appeal for Christmas toys, the 30 telephone inquiry girls at the G.W.R. Central Inquiry Bureau, Paddington, in their spare time have made 40 soft toys, mostly from rag bag materials, for St. Mary's Hospital Children's Ward.

* * *

"Friendship Train" at Journey's End

The "Friendship Train" conveying food gifts for Europe reached New York on November 18, after a journey from Los Angeles across the continent collecting contributions. By the time the train reached New York, it was divided into three portions, containing in all more than 200 freight wagons loaded with food.

* * *

Colonel Burnaby's Ride to Windsor

Mr. Kenneth Brown has drawn our attention to the following extract from "Frank Harris: His Life and Adventures" (published this year) relating an unpremeditated journey by Colonel Frederick Burnaby on his return to England after his famous Ride to Khiva of 1875:—

"He [Colonel Burnaby] was invited to dinner at Windsor to tell the Queen about his adventures. Of course he obeyed the order, got into the train at Waterloo and fell fast asleep, did not change at Weybridge but went on to Basingstoke, where he woke up. He had then to persuade the station-master to make up a special train and send him back to Windsor."

Colonel Burnaby was correspondent of *The Times* during Gordon's expedition to the Sudan. His horseback ride to Khiva, through Russian Asia, which had just been closed to travellers, was undertaken in the winter of 1875-76. A later exploit was to cross the Channel in a balloon in 1882. Later, he was employed by Lord Wolseley in the Nile Expedition, and was killed in the hand-to-hand fighting of the battle of Abu Klea (January 17, 1885).

* * *

100 YEARS AGO

From The Railway Times, *Nov.* 27, 1847

South Wales Railway.—The terminus of the railway is now definitively fixed at Abermawr, in the parish of Granston, about midway between Saint David's and Fishguard.

Great Western Railway.—Owing to the general suspension of new works throughout the Great Western system, between 300 and 400 mechanics have been discharged from the Company's locomotive works at Swindon. The 800 or 900 mechanics retained at work have volunteered a reduction of 3½ per cent. upon their wages towards the support of those out of work; Mr. Brunel, the engineer, subscribing 100*l.*, and Mr. Gooch, the locomotive superintendent, half that amount.

Railway Travellers and the Euston Hotel.

To the Editor of the Railway Times.

Sir,—I hope you may be induced to publish what follows, with a view to prevent travellers from being imposed upon by false pretences.

On the 18th inst. I slept with my family at the Euston Hotel one night. In the rooms are printed papers, purporting to be a list of prices, wherein is set down—

Breakfast, with cold meat	£0	2	6 each
Beds	0	5	0
Bed-room fires	0	1	0 each.

In the morning, at breakfast, I inquired what cold meat there was, and, amongst other things, chicken and tongue were mentioned, which I ordered. One wing of a chicken was eaten. The charge for breakfast for four persons was 14s.—3s. 6d. each. On remonstrating against this charge, I was told that chickens were charged higher; and the charge was persisted in, although I stated that but one person out of the four had eaten chicken.

The charge for two beds (one occupied by two persons) and a sitting-room, was—

Apartments..... £1 3 6

For two bed-room fires for one night, the charge was 3s.

On my pointing out the charge of 1s. each for bed-room fires on the list, I was told that the price depended on the time at which the fires were lighted. It seems, therefore, that the prices set forth by the printed papers at the Euston Hotel are not those charged, of which travellers and others should be aware.—Yours, &c.,

Viator.

November 20, 1847.

Honeymoon Journey of 1893

Mr. H. W. Cecil, who wrote to us some time ago recalling his presence at Liverpool Street on July 6, 1893, to watch the departure for Sandringham on their honeymoon of the late King George V and Queen Mary, has sent us an admission card issued by the Great Eastern Railway on this occasion. The card, measuring 8¼ in. by 5¼ in., ornately lettered, and bearing pictures of the Royal couple, gave admission to standing accommodation in "Enclosure K" at Liverpool Street Station. The train was due to leave at 5.30 p.m., and spectators with tickets had to be in their places not later than 4.30 p.m., which does not seem an unduly long wait as such things are measured in these days.

* * *

Quicker Turn Round

To All of Us by One of Us

Tell me not in mournful numbers,
"Q.T.R." is but a dream—
That the carman's dead, or slumbers
And things are not what they seem.

M.O.T. is on the warpath
And the clarion cry goes forth—
"Wagons wanted, for production,
East and west and south and north!"

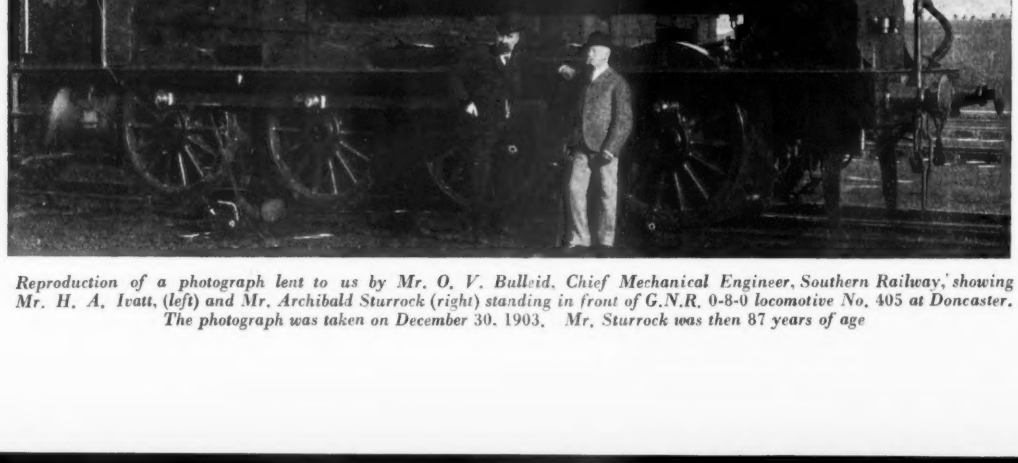
In some unfrequented siding,
In the manner of their kind,
Wagons may be coyly hiding,
Out of sight and out of mind.

Posters, leaflets, all remind us
We can end this state supine,
And, departing, leave behind us
Progress all along the line.

Be not slothful, roll your sleeves up;
Come the wagon late or soon,
Get it cleared, and into action.
E'en on Friday afternoon!

Y. Z.

Two Noted G.N.R. Chief Mechanical Engineers at Doncaster



Reproduction of a photograph lent to us by Mr. O. V. Bulleid, Chief Mechanical Engineer, Southern Railway, showing Mr. H. A. Ivatt, (left) and Mr. Archibald Sturrock (right) standing in front of G.N.R. 0-8-0 locomotive No. 405 at Doncaster. The photograph was taken on December 30, 1903. Mr. Sturrock was then 87 years of age

OVERSEAS RAILWAY AFFAIRS

(*From our correspondents*)

CANADA

Wheat Movement by C.P.R.

Preparing for the close of navigation on the St. Lawrence route at the end of November, the C.P.R. on November 3 began the daily movement of grain eastwards to Saint John with a haul of 25 vans, containing roughly 44,000 bushels. The daily target for Saint John of 25 cars is additional to a heavy movement to Montreal for ships loading there until the close of navigation. From the opening of the port in April until October 31, the C.P.R. had moved more than 26 million bushels of grain into Montreal.

At Fort William on October 31 there were 42,000,000 bushels of grain in storage, which had been moved in by the C.P.R.—an increase of 9,000,000 bushels over what was in storage last year at the same time. During the crop year the C.P.R. had moved more than 69 million bushels into Fort William, from August 1 to October 31, and, in so doing, exceeded the quota of 800 vans a working day asked by the Wheat Board, with 816 a day in September and 804 a day in October. The objective for daily movement from the Georgian Bay (Lake Huron) ports is 250 vans (440,000 bushels) over and above the 25 vans earmarked for Saint John. This will be for export from Montreal, and for domestic needs in the East.

ARGENTINA

Service Conditions on Private Railways

Working conditions of the staff of the privately-owned railways in Argentina were improved substantially recently by a Government resolution establishing that in future such staff will work under the agreement on wages and conditions of employment in force on the Argentine State Railways. A vast amount of work has had to be undertaken by the staff departments of the railways, in that every employee covered by the previous wage scales has had to be reclassified under the new agreement, and his new salary paid to him with retrospective effect to July 1, 1946. In the majority of cases this reclassification has brought in its train a claim from the employee, who considered himself entitled to a higher category than that assigned to him.

As an example of the new conditions, employees are now entitled to paid annual holidays of 30 days a year after 20 years' service, and special leave for sickness, death in the family, motherhood, marriage, and for several other reasons laid down by the agreement.

UNITED STATES

I.C.C. Statement on Rates Increase

In granting an immediate 10 per cent. increase in freight rates (see *The Railway Gazette* of October 17), the Interstate Commerce Commission referred to representations from responsible quarters that any such increase might stimulate already existing inflationary forces. The commission stated: "In our judgment that factor is outweighed by the necessity of keeping the carriers, in the face of higher cost of operation, in a reasonably healthy condition in order that they may maintain their credit, procure additional equipment which is now urgently needed, and rehabilitate and improve their properties generally to take care of the demand of the public for adequate transportation service." At the same time the I.C.C. authorised 37 railways in the South to raise basic passenger fares for sleeping- and parlour-car travel from 3·3 to 3·5 cents a mile, and gave 26 southern lines permission to put basic coach fares up from 2·2 to 2·5 cents a mile. This represents an average 10 per cent. increase in such fares, and will place them on the same level as new passenger rates made effective by all Eastern railways early this summer.

The commission said it would "set for hearing as speedily as possible" the portion of the rate case relating to permanent 27 per cent. increases. Such hearings are to be held in the East, South, West, and Mid-West before action is taken.

BRAZIL

Paulista Revenue Increased

Another year of successful working was recorded by this railway in its report for 1946. Receipts totalled Cr. 350,524,803, against expenses of Cr. 282,904,370·70. These figures compare with the following totals for the four previous years:—

	Receipts Cr.	Expenditure Cr.	Net receipts Cr.
1942	162,429,861	117,838,790	44,591,071
1943	185,226,334	130,614,228	54,612,106
1944	234,682,396	178,478,794	56,203,602
1945	284,124,637	231,520,785	52,603,852

New Works Programme

A two-year plan of works and purchases for 1946-47 was approved by the Minister of Transport. This plan, covered by money from the renovations and improvements funds, includes the purchase or construction of first class passenger coaches, locomotives and rolling stock in general; widening of gauge between Pederneiras and Baurú, with new alignment under better technical conditions; electrification from Jaú to Baurú; replacement of part of the present signalling installation between Jundiahy and Campinas; and construction of a new electrical transmission line to feed this signalling installation. The plan also provides for enlargement of the electric locomotive shops and staff accommodation at Jundiahy, and the construction of 50 houses for employees.

Workshops Activities

The workshops at Jundiahy and Rio Claro continued with the work of converting covered and open steel wagons from metre gauge to the 1·60 m. gauge. Construction of two sleeping cars was completed during the year. Some 400 open wooden wagons were built on the metre-gauge bogies left available by the conversion of steel wagons mentioned above, and a further 500 steel open wagons were completed during the year.

INDIA & PAKISTAN

Amritsar-Delhi Trains Restored

After a complete breakdown of railway service, due to floods, between Amritsar and Delhi lasting over a fortnight, the first train carrying railway and other Government officials left Amritsar for Delhi on October 13. Another special train carrying judges of the High Court of East Punjab and their staff left Amritsar for Ambala on the same day.

In the reverse direction, a special train carrying non-Muslim refugees left Delhi on October 15 for the Bhatinda-Ferozepore area, but due to breaches on the line could not proceed beyond Kasu Begu, six miles short of Ferozepore Cantonment.

Brisk Refugee Movement

Refugee movement between the Dominions of India and Pakistan became brisk in the third week of October. Several trains were run daily carrying Muslim refugees to Pakistan, and non-Muslims to Jullundur and Pathankote in India.

The Pakistan authorities arranged for a daily train service for non-Muslim refugees from Wah, Mianwali, Gujranwala, Chuhar Kana, and Shujabad in Pakistan.

There were fewer attacks on trains crossing the border, enabling railway authorities of both Dominions to intensify the mass exchange of population. A typical refugee train, which left Delhi on October 18, conveyed 5,000 refugees and 60 troops. The armed escort takes up position in a sandbagged flat bogie wagon in the rear. This wagon is converted into a moving fortress, and is equipped with Bren guns and rifles to ward off hostile mobs on the long journey towards the Pakistan border. A contingent of troops is posted also in carriages in the middle of the train.

FRANCE

Rise in Railway Rates

On account of the recent rise of 60 per cent. in the price of coal, the French Government decided to raise railway rates, as well as gas and electric charges. Passenger fares have been raised by 25 per cent. throughout France, and the fares per km. are now: first class, fr. 4 50 c.; second class, fr. 2 92 c.; third class, fr. 2 25 c. The third class fare is equivalent to 1¼d. a kilometre, and slightly more than 1¾d. a mile at the present legal exchange rate of fr. 480 to the £.

The increase of 25 per cent. has raised the Paris Metropolitan flat fare from fr. 4 to fr. 5. Books of five double-journey tickets now cost fr. 50.

Railcar Services Discontinued

The S.N.C.F. has announced also that numerous railcar services will be discontinued in many parts of the country. This step evidently is due to the lack of fuel oil. The same reason affects diesel motor transport on the roads, and the drastic reduction of the petrol ration is holding up motor traffic everywhere.

While the rise in transport rates is attributed mainly to the higher cost of coal, other factors are to be taken into account. These include increased wages, consequent on the railway and Metro strikes, and higher prices for steel and other materials. French critics maintain that receipts in the principal nationalised industries are insufficient to cover the financing of modern equipment, or even to provide a sinking fund for old material. They assert that earnings often are insufficient to cover current operating costs.

M. Jules Moch, who is now Minister of Economic Affairs, as well as Minister of Public Works & Transport, took the initiative in abolishing the coal subsidy, and thus brought about the sharp rise in the cost of coal to the consumer. The S.N.C.F., probably with the Minister's assent, originally proposed a rise of 75 per cent. in Paris suburban passenger rates. The Paris suburban traffic has long been run at a loss. The Government decided, however, to fix the increase at 25 per cent., the same as for main-line passenger fares.

A.T.C. Demonstration on G.W.R.

Beginning in 1906 with a cab-signalling system, the Great Western Railway modified it to give automatic train control and extended the apparatus throughout its main routes. An adaptation to multiple-aspect signalling was demonstrated recently

IN 1905 the Reading Signal Works of the Great Western Railway produced the first practical model of a form of cab-signalling apparatus designed by some of the company's officers, which had been demonstrated in outline form about two years before on a model locomotive. The first experimental sets were put into regular service on the Henley branch on January 1, 1906, covering 5 miles of double line, working in conjunction with the semaphore distant signals. In December of the same year the apparatus was put to work on the 25½-mile single-line Fairford branch, and in that case the distant signals were removed and replaced entirely by the cab-signal mechanism.

In both these cases the equipment comprised a steam whistle, the valve of which was normally held shut by an electro-magnet continuously energised from a battery on the engine, the circuit to this electro-magnet being interrupted at each signalling point by a switch opened by the lifting of a contact shoe carried below the engine passing over an insulated ramp in the centre of the 4-ft. way. This ramp was arranged to be energised when the distant signal—or its lever only where that signal was abolished—was in the "clear" position and remain dead at other times. On running over a ramp with a distant signal in the "on" position the electro-magnet became de-energised, and this allowed the steam whistle to open and sound until stopped by the driver replacing the magnet armature by means of a handle. A visual indicator marked "danger" also appeared in the engine cab. With the signal at "clear" the current picked up by the ramp, acting on a relay, held the whistle closed and sounded an electric bell, which also rang until stopped by the driver.

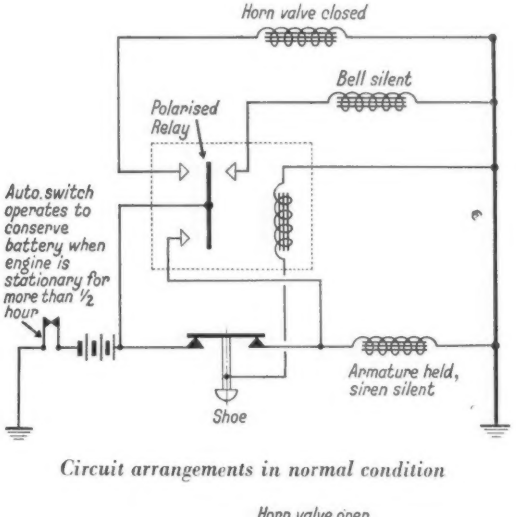
This apparatus was at first a cab signal only and did not have any connection with the train brakes, but later on, without departing in the slightest from its fundamental principles, based on the "closed circuit" idea, the design was modified in certain details. The steam whistle gave place to a siren, through which, on a de-energised ramp being passed over, air was admitted to the train brake pipe, initiating a gradual application of the vacuum brake, which the driver had to cancel by silencing the siren. The visual "danger" indicator was abolished and also the continuous ringing of the "line clear" bell. The driver no longer had to stop the bell ringing. This sounded as an energised ramp was passed over for a sufficient interval, even at the highest speeds, a slow-acting relay being used to ensure this taking place.

In this form, with such slight modifications to constructional details as experience showed to be advisable, the apparatus was applied in stages, as shown below, until now the whole of the G.W.R. main routes are equipped, comprising 2,642 ramps on the track and 3,364 locomotives.

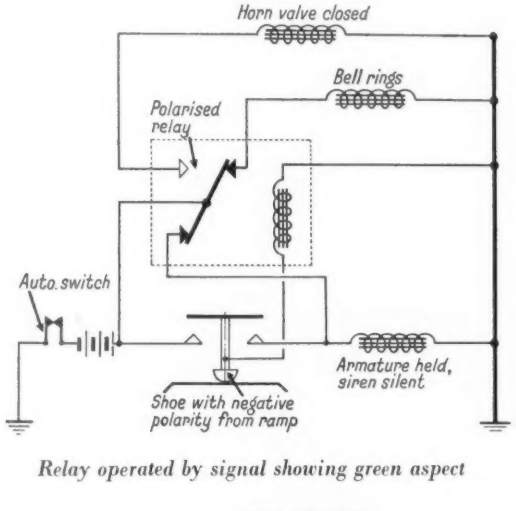
DEVELOPMENT OF THE SYSTEM

Henley Branch	January 1, 1906
Fairford Branch	December 1, 1906
Reading—Slough (four tracks) ...	1908
Slough—Paddington (four tracks)...	1912
Reading—Oxford—Swindon ...	1929
Old Oak Common—High Wycombe	
Swindon—Plymouth	1931
Swindon—Swansea	
Oxford—Wolverhampton	
Reading—Taunton	
Weymouth and Salisbury Branches	
Birmingham and Wolverhampton to Worcester, Hereford, Newport,	
Oxford—Worcester...	
Birmingham—Gloucester	
Swansea—Fishguard	1937
Wolverhampton—Chester	1938
Plymouth—Penzance	

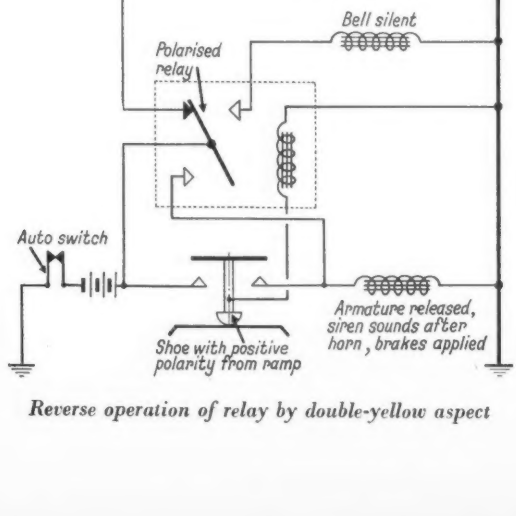
The total track mileage involved is over 2,850. Although trials were made, as


Horn valve closed
Bell silent
Polarised Relay
Auto switch operates to conserve battery when engine is stationary for more than ½ hour
Armature held, siren silent
Shoe

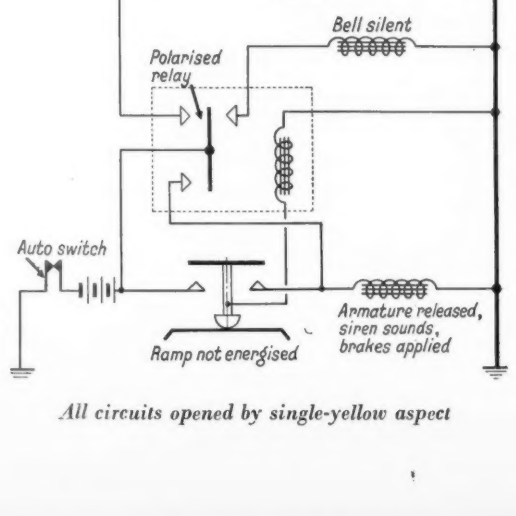
Circuit arrangements in normal condition



Relay operated by signal showing green aspect



Reverse operation of relay by double-yellow aspect



All circuits opened by single-yellow aspect

described in *The Railway Gazette* for June 10, 1938, with a modified form of the equipment dispensing with a battery on the engine, the standard apparatus retains this, and in its essentials is no different from that with which the first installations were made. Long experience has proved the principles then adopted to be perfectly sound, while the general design is simple, compact and robust, affording every satisfaction in service. It has been found to be of the greatest assistance to the drivers at all times, but especially during fog or other bad weather conditions.

The ramps are about 45 ft. long and consist of a light steel bar secured to a timber joist. The ramp is sloped to give a gradual upward lift of 1 in. to the shoe 7 ft. 6 in. from the point of engagement, which is 2½ in. above rail level, and is then flat for a distance of 12 ft. 5 in., after which the ramp falls away in a circular arc allowing the shoe to drop to its normal position in a further 6 ft. 3 in. Hence, the total length of shoe contact is 26 ft. 2 in., and the maximum height attained by the shoe whilst on the ramp is 3½ in. This arrangement is found to give perfect functioning up to the highest speeds attained.

Use with Multiple-Aspect Signals

The existing signalling on the G.W.R. is throughout of the 2-position home and distant type, the colour-light signals used between London and Southall and at a few other places on the system merely replacing the original semaphores and providing throughout the 24 hours the indications formerly given by night. The automatic train control is applied exclusively to the distant signals, and this gives "caution" and "clear" audible signals on the locomotives in conformity with the aspects exhibited by each distant signal as the train is nearing it or, where there is a stop arm over the distant, on passing it. The possibility of adopting multiple-aspect signals showing not only a single yellow but a double yellow aspect also made it desirable to consider modifying the apparatus so as to give two distinct caution warnings to the driver if required. This has been done and—although there are as yet no multiple-aspect signals in service—applied experimentally at certain locations on the up main line between Reading and Maidenhead.

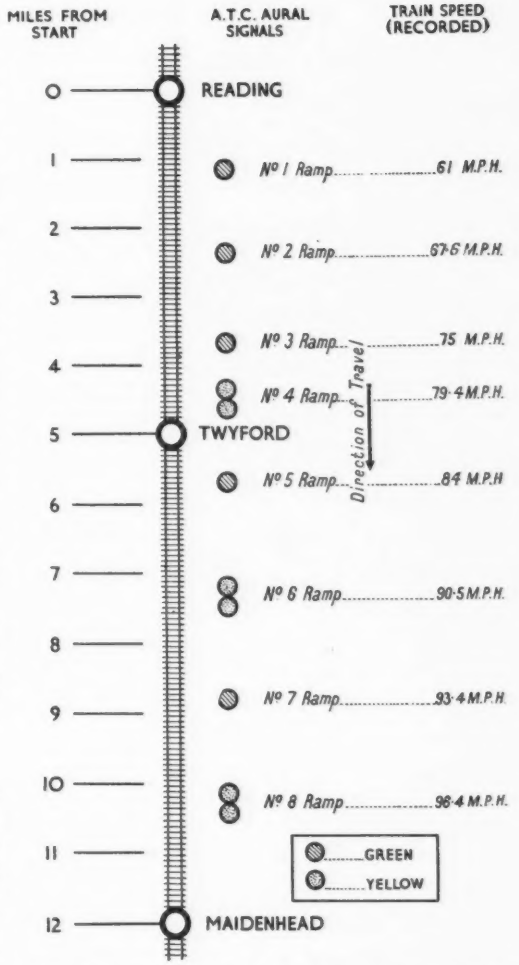
On Sunday, October 12, 1947, a special train drawn by locomotive No. 5056, *Earl of Powis*, was run over this 12-mile section to demonstrate the working of the modified equipment. A party consisting of representatives of the Ministry of Transport and officers of the four main-line railways travelled to Reading by the 12.30 p.m. train from Paddington. On arrival at Reading the guests transferred to the special train, which had a dynamometer car next to the engine and loudspeaker equipment by means of which the audible signals received in the cab during the run could be heard in the coaches, and interesting items of information transmitted from time to time. An explanatory booklet had been distributed to all guests before starting. The accompanying diagram shows the position of the ramps passed over between Reading and Maidenhead and the speed in each case, with the signal aspects conveyed to the train, namely, "line clear" (green) at ramps Nos. 1, 2, 3, 5 and 7 and the additional double-yellow warning at Nos. 4, 6 and 8. The very high speed of 96·4 m.p.h. was attained at No. 8 ramp, and, after the warning had been received and silenced, the driver brought the train to a stand in Maidenhead Station.

An additional demonstration was given after leaving there, the up main distant signal for the Farnham Road signal-box being kept at "caution" and the brake application, initiated on passing over the ramp, where the speed was 63·6 m.p.h., allowed to pull the train up against the locomotive with regulator left fully open, which it did in 1,505 yd. from a maximum speed of 65·5 m.p.h. on a falling gradient of 1 in 2,112 (the train was accelerating when passing over the ramp). With a heavier train, where the effective tractive effort of the engine is a smaller proportion of the gross weight of the train than on this short demonstration train, the automatic train control application would bring the train to rest from a speed of 60 m.p.h. in about 900 yd. when the steam regulator is left open.

At another location, between Farnham Road and Paddington, an ordinary "caution" warning was received, but silenced by the driver in the usual manner.

The Apparatus Used

The apparatus used, which was inspected on the arrival of the train at Paddington, consists of the ordinary equipment so long in service with the addition of an electrically-controlled air-intake horn, which sounds just before the siren when a double-yellow signal is encountered, and the use of both polarities of current on the ramp to discriminate between double-yellow and "line clear" (green). The working in the case of the single-yellow or green aspects is no different from that at present, but with a signal at double-yellow the current picked up from the ramp is of opposite polarity to that used for "line clear." The relays on the engine cannot, in that case, keep the siren electro-magnet energised, and therefore the ordinary warning and brake application start to act. At the same time a circuit is closed to the horn directly the engine shoe makes contact with the ramp, and, as explained, it is heard to sound just before the siren, the two distinctive audible signals indicating unmistakably that the signal aspect is double-yellow. Any failure to pick up the current, from whatever cause, would, of course, result in the ordinary caution, or single-yellow warning, being received, and thus the same principle that has governed the design of the equipment from the outset, namely, that any failure shall be on the side of safety, is observed in this modification. The additional horn is mounted above the existing equipment close to the driver's position in the engine cab, as seen in the illustration reproduced on page 620.



Speeds over ramps and signal aspects on test run of October 12

GENEVA TARIFF AGREEMENT.—A White Paper giving a report on the Geneva Tariff negotiations and on the General Agreement on Tariffs & Trade, has been published. Copies of the schedules giving details of the new tariff rates are available for consultation at the following Chambers of Commerce:—

London, Glasgow, Birmingham, Manchester, Bradford, Bristol, Cardiff, Derby, Huddersfield, Hull, Leeds, Leicester, Lincoln, Liverpool, Luton, Newcastle-on-Tyne, Middlesbrough, Northampton, Norwich, Nottingham, Oldham, Portsmouth, Preston, Sheffield, Southampton, Stockport, Stoke-on-Trent, Swansea, Walsall, Wolverhampton, Aberdeen, Dundee, Edinburgh, Belfast.

They are available also at the following regional offices of the Federation of British Industries:—

Newcastle-on-Tyne, Leeds, Bradford, Sheffield, Nottingham, Leicester, Cambridge, London, Reading, Bristol, Birmingham, Manchester, Liverpool, Glasgow.

BRITISH TRAVEL ASSOCIATION PRESS OFFICE.—The press office of the British Travel Association has been moved to Queen's House, St. James's Street, London, S.W.1, telephone Mayfair 9191, where all press inquiries in respect of the British Travel Association and also the British Tourist & Holidays Board will be dealt with.

The Ilford Flyover, L.N.E.R.

ONE of the difficulties of the successful operation by electric traction of the lines out of Liverpool Street, L.N.E.R., has always been the conflicting train paths on the level, particularly at Stratford.

The scheme as eventually adopted under the 1935 New Works Programme for the expenditure of £45,000,000 in improving London's transport, was made easier by co-ordination with the operations of the London Passenger Transport Board. The extension of the Central Line tube to Stratford and Leytonstone has enabled the whole of the L.N.E.R. train service from Ongar, Epping, Woodford, and Leyton, as well as on the Fairlop Loop, to be curtailed at Leytonstone instead of running into Liverpool Street. This has eliminated that junction difficulty at Stratford.

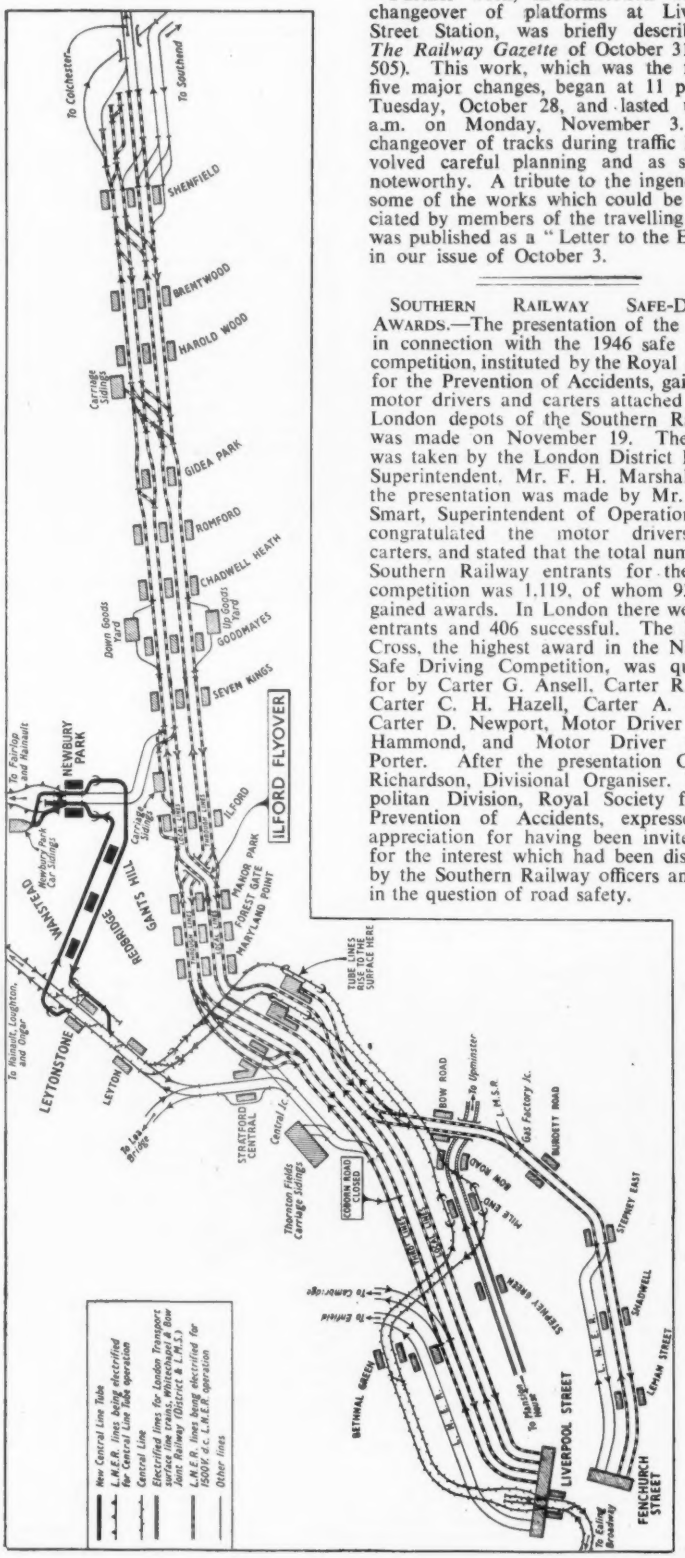
Similarly, the new London Transport facilities enabled the Up Local line platform at Bethnal Green Station to be dispensed with and Coborn Road Station closed when the Central Line tube trains were extended to Stratford on December 4, 1946. The L.N.E.R. electrified service from Fenchurch Street has been planned as a shuttle to Stratford where there will be platform exchange, and further assistance in the direction of eliminating conflicting train paths has been provided by the construction of an additional single line between Bow and Stratford, with terminal platforms at Stratford which will accommodate the L.N.E.R. shuttle service of electric trains to and from Fenchurch Street in bays of the same platforms as serve (on their through faces) the local lines of the L.N.E.R., and are used by the Central Line tube trains.

These changes have enabled the tracks out of Liverpool Street to be rearranged, so that the through lines are to the north, and the local lines to the south, whereas formerly they were the other way round.

Of the three pairs of tracks leaving Liverpool Street, the northernmost pair accommodates the Enfield local line, that diverges at Bethnal Green and is entirely separate from the main group passing through Stratford. The middle pair of lines (formerly the local lines) are now the through lines to Ilford, etc., and also take the Cambridge main-line traffic as far as Bethnal Green Junction. The southernmost pair are now the local lines between London and Ilford.

At Shenfield, where there is a burrowing junction of the Southend tracks that diverge at this point from the main line to Colchester, it was not desired to make drastic alterations, and this meant that the local lines from Liverpool Street needed to resume their northward location in relation to the through lines before Shenfield was reached. To effect this, a flyover was built between Manor Park and Ilford to carry the local lines over the main lines. This flyover was brought into use on October 6, and marked an important stage in the progress of the civil engineering works connected with the Liverpool Street-Shenfield electrification. This opening was timed to coincide with the beginning of the winter timetable to facilitate the re-routing and re-timing of trains, and also major alterations to terminal working at Liverpool Street, to be incorporated in the new working books. The engineers' work precluded the use of number five platform at Ilford and Aldersbrook Carriage Sidings from the beginning of the changeover at 9 p.m. on Saturday, October 4, until 5 p.m. on Sunday, October 12. During this period the Ilford and Woodford local service started from, and terminated at, Barkingside, but the morning and evening through service to Liverpool Street ran normally on weekdays.

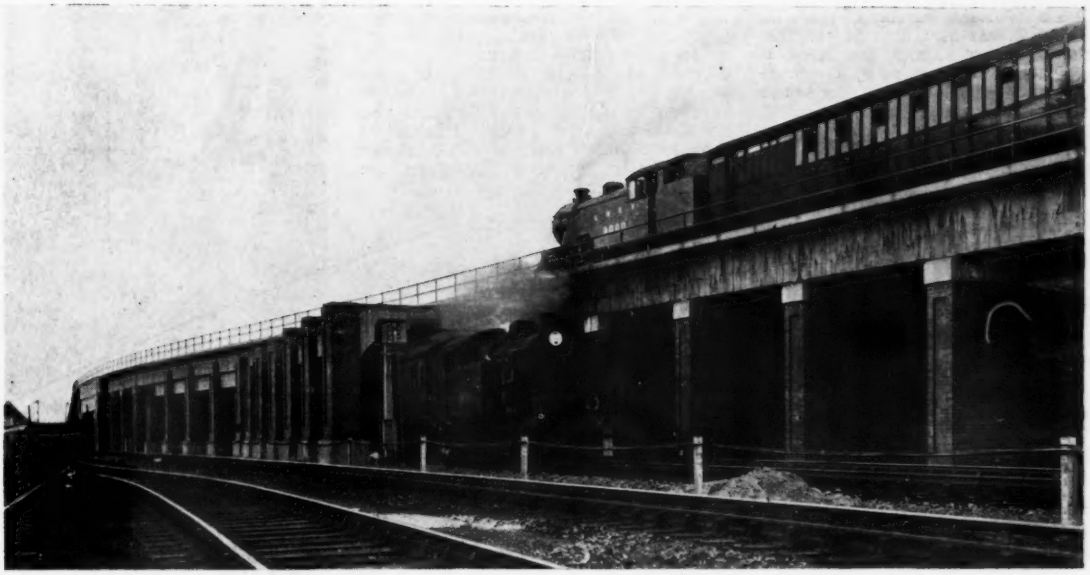
Further work, in connection with the changeover of platforms at Liverpool Street Station, was briefly described in *The Railway Gazette* of October 31 (page 505). This work, which was the first of five major changes, began at 11 p.m. on Tuesday, October 28, and lasted until 5 a.m. on Monday, November 3. The changeover of tracks during traffic has involved careful planning and as such is noteworthy. A tribute to the ingenuity of some of the works which could be appreciated by members of the travelling public was published as a "Letter to the Editor" in our issue of October 3.



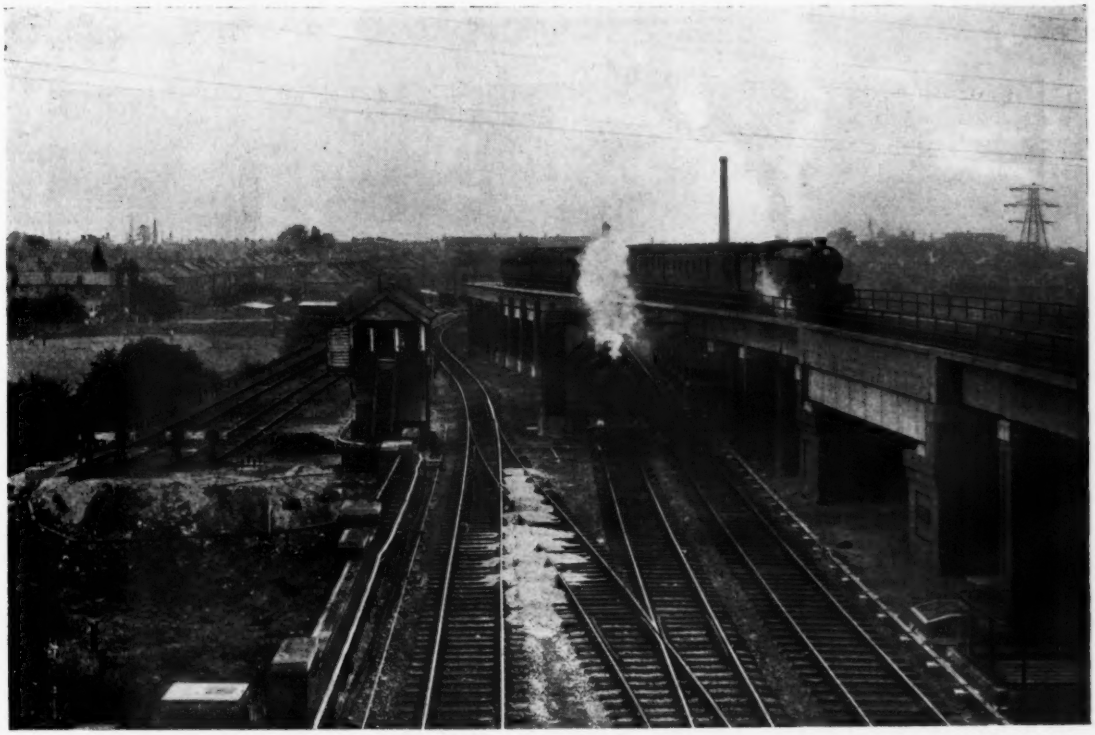
Rearranged tracks between Liverpool Street and Ilford made possible by the Ilford flyover, L.N.E.R.

SOUTHERN RAILWAY SAFE-DRIVING AWARDS.—The presentation of the awards in connection with the 1946 safe driving competition, instituted by the Royal Society for the Prevention of Accidents, gained by motor drivers and carters attached to the London depots of the Southern Railway, was made on November 19. The chair was taken by the London District Freight Superintendent, Mr. F. H. Marshall; and the presentation was made by Mr. S. W. Smart, Superintendent of Operation, who congratulated the motor drivers and carters, and stated that the total number of Southern Railway entrants for the 1946 competition was 1,119, of whom 939 had gained awards. In London there were 469 entrants and 406 successful. The Bronze Cross, the highest award in the National Safe Driving Competition, was qualified for by Carter G. Ansell, Carter R. Hart, Carter C. H. Hazell, Carter A. Green, Carter D. Newport, Motor Driver G. B. Hammond, and Motor Driver G. C. Porter. After the presentation Captain Richardson, Divisional Organiser, Metropolitan Division, Royal Society for the Prevention of Accidents, expressed his appreciation for having been invited and for the interest which had been displayed by the Southern Railway officers and staff in the question of road safety.

The Ilford Flyover, L.N.E.R.



Train on local line passing over the flyover, and train on through line passing beneath it. The flyover was brought into use on October 6



General view of Ilford flyover, which carries the local lines over the through lines between Manor Park and Ilford Stations, L.N.E.R.

NOTE : These views were taken on October 4, during the changeover period, when the train on the lower line was using what would now be the wrong road

L.M.S.R. Staff Instructional Filming

Special arrangements made for the filming of controlled firing methods

FOR a considerable number of years, the L.M.S.R. has used films for staff instructional purposes, and the latest of these, which is being made by Gaumont-British Instructional Limited deals with controlled locomotive firing methods.

The area of a modern locomotive footplate proved too small to enable a satisfactory film to be taken of the engine crew, and particularly the fireman, at work. The idea of splitting the engine from its tender, and interposing a flat truck between them, therefore, was conceived, so providing the camera with plenty of room for manœuvre. In this way film could be taken of the fireman at work, either at the engine cab end, or at the tender end.

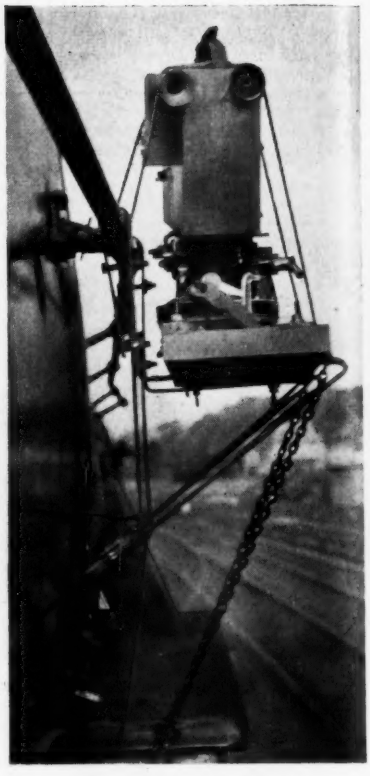
This novel arrangement worked so well, in fact, that it was possible to make several runs on the Midland Division of the L.M.S.R. between Kentish Town Motive Power Depot and Bedford. The floor of the flat wagon was built up to the level of the engine footplate with stout timbers, and a generator, to provide current for the film lights, was carried in a closed van behind the tender.

For the purpose of the film it also was necessary to secure good photographs of the locomotive chimney, as several "shots" were required showing smoke of varying densities. To enable this to be achieved, a special mounting was devised which was kept within gauge, and is shown in the accompanying illustrations.

The engine chosen to feature in the film was a 4-6-0, No. 4777, of Class "5."

The film, in addition to actuality photographs of men on the footplate, also includes a considerable amount of animated diagram work. The principles of combustion in a locomotive firebox are shown in animated diagrammatic form, as also are the effects of good and bad firing.

When complete the film will be shown to motive power staff throughout the L.M.S.R. system.



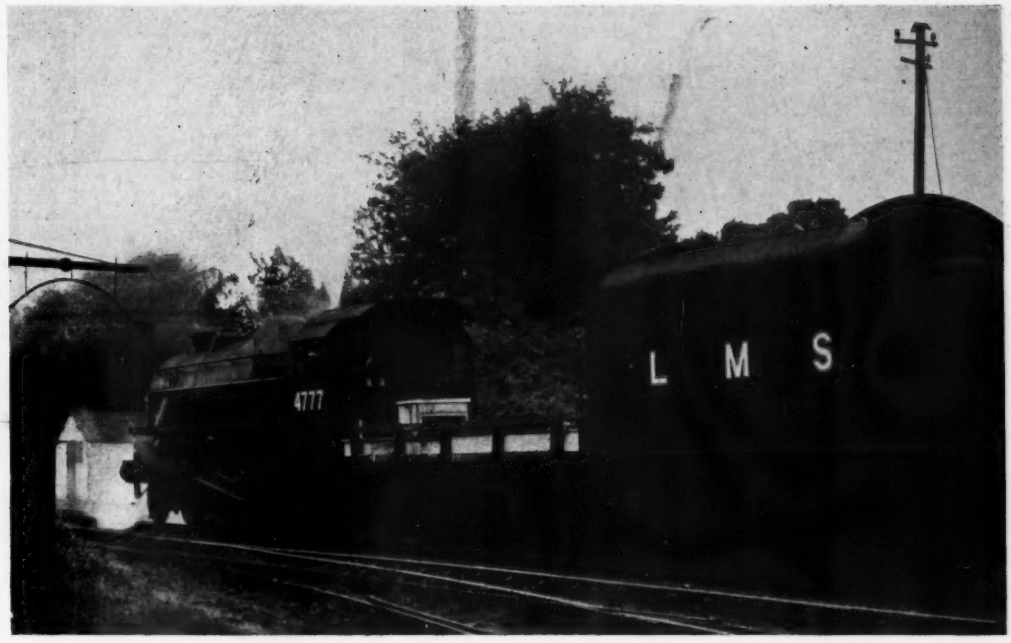
The camera mounting

COAST LINES LIMITED.—A statement by the Chairman, Sir Alfred H. Read, issued with the report and accounts for 1946 of Coast Lines Limited, shows an increase in profit of nearly £300,000. A substantial part of the company's net revenue was produced by its interests in shipping other than coasting liners, and in road transport activities. The coasting trade produced disappointing financial results largely because of the high cost of loading and discharging at practically all British ports, coupled with the length of time taken in handling the cargo. Experience showed that the time spent in loading and discharging ships frequently was more than double that necessary in pre-war days. As a result, economic benefits which might be derived from fast modern ships and equipment were more than absorbed by rising costs. Nevertheless, the Chairman was of the opinion that they could look forward to the future with a certain degree of confidence.

Camera fixed to the side of the locomotive for photographing smoke issuing from the chimney

THOMAS W. WARD LIMITED.—The Chairman of Thomas W. Ward Limited, Mr. Ashley S. Ward, said at the company's recent annual meeting that events during the year under review had justified fully the optimism expressed in his speech 12 months earlier. The company's turnover reached its highest total yet, namely, £10½ million, while the turnover of the group totalled nearly £20 million. Close attention had been paid to the export market, and various representatives of the company had visited the United States, Belgium, Holland, the Scandinavian countries, India, and South America. A new Belgian company was being set up, with offices in Antwerp. Mr. Ward expressed the hope that the Government would be satisfied with its intended nationalisation of the main services, and would leave other industries to the initiative and incentive of the workpeople and executives. Recalling his announcement two years ago that the company had acquired shares in the coal business of Longbottom & Co. Ltd., Mr. Ward stated that in the interests of economical and efficient distribution, the whole of the Ward coal business had been transferred to the Longbottom company with a slight change of name.

L.M.S.R. Staff Instructional Filming



The flat wagon coupled between the locomotive and tender to provide ample space for photographing the fireman at work

The film unit at work on the L.M.S.R. Class "5" 4-6-0 locomotive which features in the film dealing with controlled firing methods

---

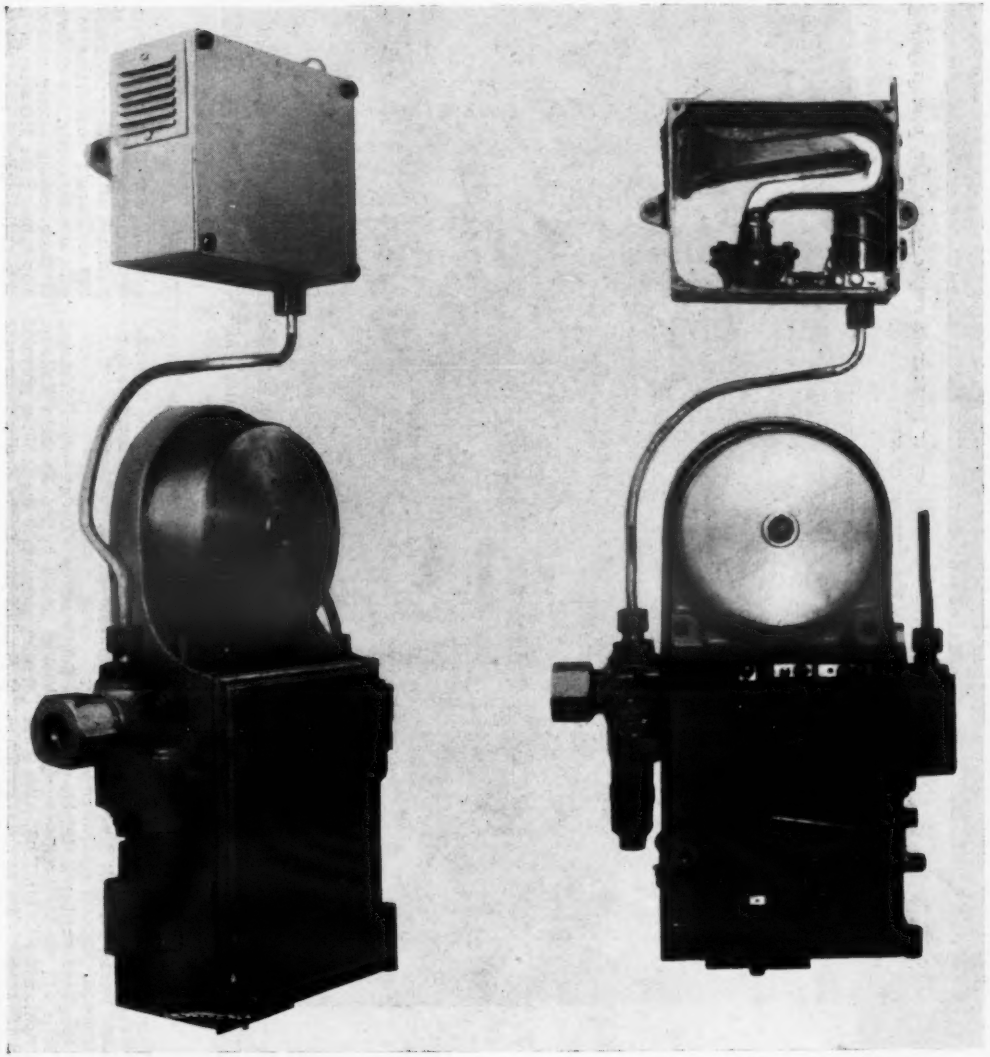
DEAN & DAWSON LIMITED.—The premises of Dean & Dawson Limited, at National House, 21, West Street, Brighton, recommenced business on November 17. The telephone number is Brighton 7951, but there will not for the time being be a telegraphic address. Mr. F. G. Allen is the Branch Manager. The company's office at 23a, Quadrant Arcade, Romford, will be reopened on December 1, and Mr. Leslie Williams will be in charge. The telephone number is Romford 6423, but there is no telegraphic address.

SOUTHAMPTON DOCKS.—An illustrated booklet issued by the Southern Railway, drawing attention to the facilities provided at Southampton Docks, outlines a scheme for building a modern reception station for liner traffic. This will be a two-storey building, with electric escalators for conveyance between the two floors and accommodation at the lower level sufficient for two full-length boat trains to be dealt with simultaneously. A folder addressed to those seeking factory sites contains a map showing the 130 acres of land available at the docks site and the location of existing factories, railway connections, docks, and roads.

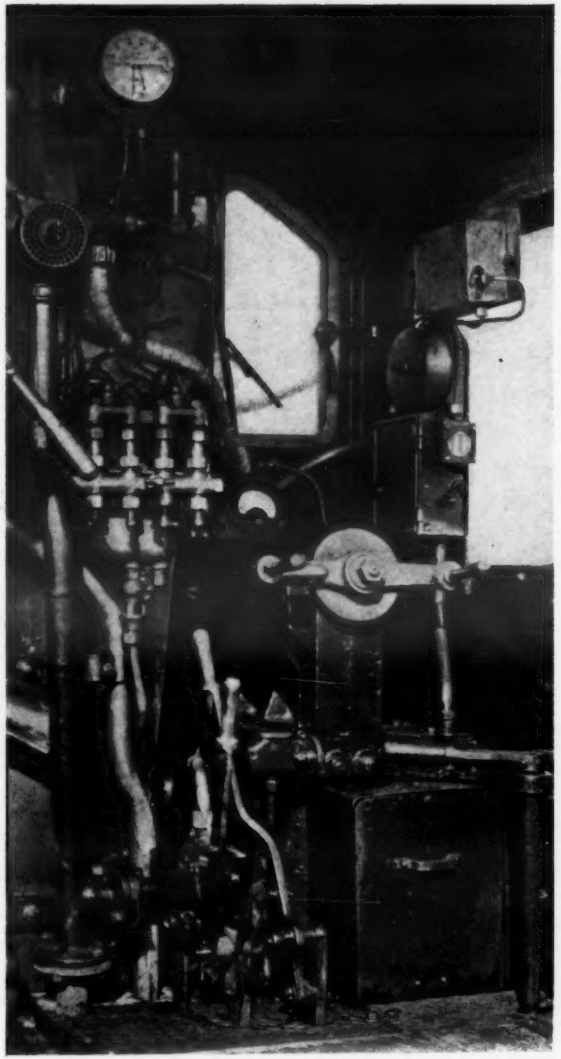
XUM

A.T.C. Equipment for Double-Yellow Warnings on G.W.R.

(*See article on page* 614)



Cab apparatus complete on left, and with covers removed on right to show horn



Siren, bell, and horn fitted in locomotive cab

Marshalling Yard Lighting Experiment

Southern Railway trials at Hither Green with alternative types of lamp supported on a 150-ft. mast

FOR some years the Southern Railway has experimented with the improvement of lighting in marshalling yards by the use of a high elevation light source to cover a large area and avoid shadows. A noteworthy experiment in this direction was described in a paper presented to the Illuminating Engineering Society by Mr. A. Cunnington, Assistant for Lighting, Heating and Water to the Chief Civil Engineer, and Mr. G. W. Golds, which was reported in our January 10 issue. In the test referred to, a ring of ten 1,000-watt lamps was suspended from a barrage balloon at a height of about 150 ft.

A further application of the same principle is now on trial at Hither Green marshalling yard, where a 150-ft. tower has been erected for the company by the Mills Scaffold Co. Ltd. carrying the following groups of lighting equipment:—

Four 2,000-watt tungsten lamps in vitreous enamel dispersive reflectors.

Eight 1,000-watt tungsten lamps in vitreous enamel R.L.M. reflectors.

Eight 400-watt mercury discharge lamps, horizontally mounted in mirrored reflectors, giving maximum beam at 45 deg.

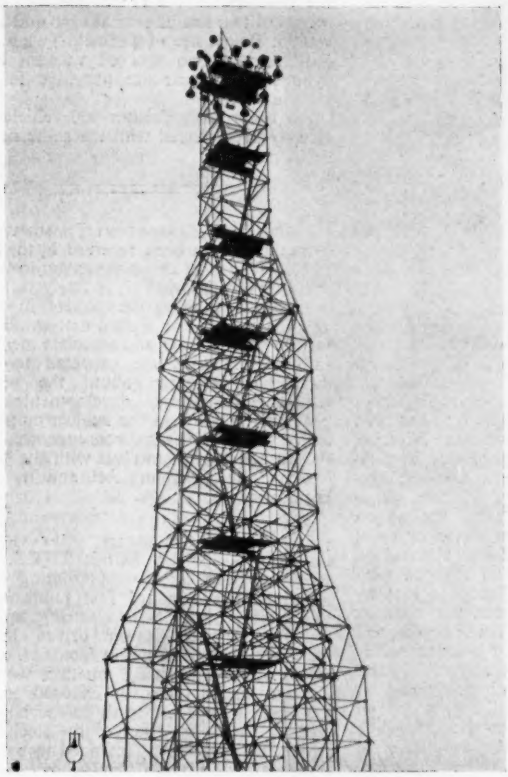
Eight 650-watt mercury discharge lamps, vertically mounted in dispersive vitreous enamel reflectors.

Any of the above four groups can be operated separately. Power is taken at present from a diesel-driven generator, but a permanent installation could be supplied satisfactorily from normal lighting mains. The range of illumination at ground level can be varied from 0·5 to 2·5 foot-candles in the neighbourhood of the tower, and reaches up to 0·03 foot-candle at 400 ft. radius.

The arrangements were demonstrated to a party of Press representatives on November 19, when the reduction of shadows between wagons by reason of the light beams falling at a much smaller angle from the vertical was observed. Two proposals have been made for permanent mast sites. The basis of the scheme is to select the middle line of the "fan" of sidings, and to project the main beam from the tower along this axis. Such an arrangement would give the maximum light in the spaces between sidings, and there would be a concentrated illumination near the tower which would light fully the path of shunters at the shunting neck.

Consideration is being given to the best type of mast for the purpose. A possible design would have a ring of lighting units suspended from pulley arms and controlled by a winch at ground level. This would give ready access for maintenance, and also enable the height to be varied according to atmospheric conditions. An alternative, where lighting is required to be directed only in one or two directions, would be to use projecting cross-arms at the top which would give wider lateral spacing of the lighting units. The masts would be 150 ft. in height, and each would support a maximum of four projectors. Illumination would be provided for six or seven sidings from the axis of the mast, and no additional lighting would be needed within a radius of 400 or 500 ft.

An important advantage of high-level illumination is the possibility of using modern high-intensity light sources, such as those now being developed in the research laboratories of the General Electric Co. Ltd., which would be too brilliant for installation nearer ground level. At the present time, G.E.C. and Siemens mercury discharge lamps are being used on the tower at Hither Green. Concentration of lighting, also, eliminates many poles, which are an obstruction in the yard, and may involve a wide network of cables or overhead wires. With normal lamp-posts, also, the wide diversity of illumination gives rise to light and dark patches unless the posts can be widely spaced.



Tower supporting experimental lights at Hither Green

One of the 2,000-watt tungsten 45-deg. projectors

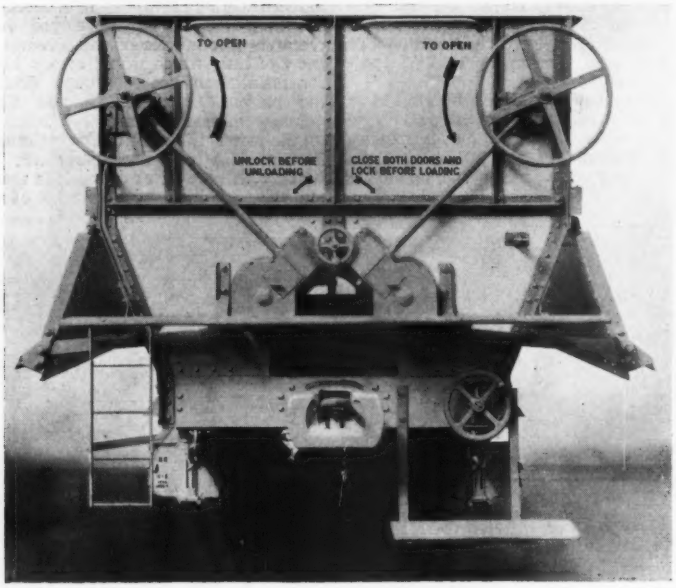
L.N.W.R. PENSIONS.—The 48th ordinary annual meeting of the contributing members of the London & North Western Railway Provident Society for providing pensions for widows and orphans of the salaried staff, will be held at Euston Station, London, N.W.1, on December 3 next at 3 p.m.

CARBON MOLYBDENUM STEEL CASTINGS.—The British Standards Institution has published B.S. 1398:1947, Carbon Molybdenum Steel Castings, for general engineering purposes in which the castings will be subject to stress at elevated temperatures. Copies may be obtained from the Sales Department, British Standards Institution, 24, Victoria Street, London, S.W.1, price 2s., post free.

XUM

Coal Hopper Wagons for Nigerian Railway

Self-discharging 30-ton two-hopper vehicles for speedy delivery



THE coal mines of Nigeria are situated at Enugu, 151 miles from the harbour of Port Harcourt, and the port of Lagos (Nigeria), as well as the main ports of the other West African Colonies, both British and French, are supplied by vessels which take on their coal cargo at Port Harcourt.

These vessels are coaled by means of an endless belt conveyor, electrically operated, and, before passing over the belts, the coal is stored in fourteen cells, which feed the belts through hoppers, as required. Between 40,000 and 50,000 tons of coal pass through the port monthly, and further increases are expected in the future.

Hitherto, wagons of four-wheel, end-tipping type have been used to convey the coal from Enugu; the capacity is 10 tons. The coal has had to be discharged into the cells by manual labour, through the end and side doors.

These wagons are now past their service life, and the question of their replacement by vehicles of a more suitable type has been receiving the attention of the Nigerian Railway management. Accordingly, a specification was prepared for a side-discharging coal-hopper wagon of 30 tons capacity. The intention was that the wagon should be made to fit the conveyor cells; that is to say, a rake could be shunted on to the discharge roads and stopped with the centre of each cell placed so that by opening the discharge doors, the contents of all wagons in the rake could be emptied without further shunting or positioning.

The design showed a wagon of two hopper compartments, each containing 15 tons of coal, of an overall length to suit the conditions outlined in the preceding paragraph; thus by shunting two rakes of seven wagons each on to the two parallel roads above the conveyor cells, 420 tons of coal could be discharged almost instantaneously. An order for 50 such wagons was therefore placed by the Crown Agents for the Colonies, and the Metropolitan-Cammell Carriage & Wagon Co. Ltd. have just completed the first batch at its works at Birmingham.

The wagons have the following dimensions:—

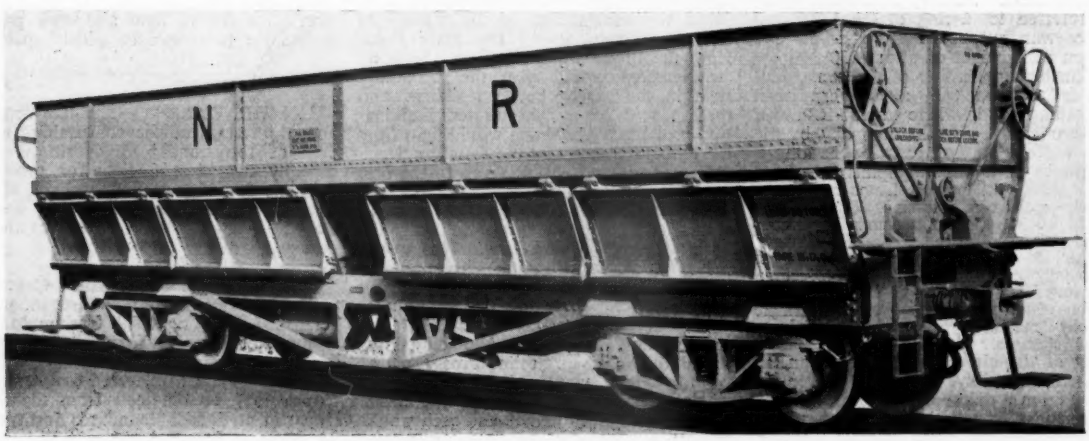
Length inside	35 ft. 11½ in.
Width inside	7 ft. 11½ in.
Overall height from rail ...	9 ft. 2 in.
Bogie wheelbase	5 ft. 6 in.
Centre of bogies	26 ft. 0 in.
Dia. of wheels	2 ft. 9½ in.
Journals...	10 ft. 5 in.
Tare	18 tons 17 cwt.
Capacity	30 tons

It will be seen from the illustrations that the discharge doors are hand-operated by means of two sets of gear at each end of the wagon. Bogies are of Sheffield-Twinberrow pattern, and two sets of vacuum brake cylinders and gear are provided in each vehicle.

An order for a further 100 vehicles has already been placed with the same firm of builders.

INSTITUTE OF TRANSPORT EXAMINATIONS.—Inquiries have been received by the Institute of Transport about the extent to which the Transport Act, 1947, is likely to figure in Institute examination papers in 1948; and the council has replied that candidates for the graduateship and associate membership examinations are expected to keep themselves informed about the general nature of current developments and problems bearing on the subject matter of their syllabi, and that, consequently, they should acquaint themselves with the broad lines of the Transport Act and its main implications.

ELECTRIC OVERHEAD TRAVELLING CRANES.—A British Standard (B.S. No. 466) has been issued (representing a revision of the standard first published in 1932), which deals with electric overhead travelling cranes, power driven in all motions, for general use in factories, workshops and warehouses, whether working indoors, under cover or exposed to the weather. It does not apply to special duty cranes, such as heavy-duty steelworks cranes, for which it is intended to prepare a separate standard. Copies may be obtained from the Sales Department, British Standards Institution, 24, Victoria Street, London, S.W.1, price 4s., post free.



General view of one of the coal hopper wagons for the Nigerian Railway with doors closed

RAILWAY NEWS SECTION

PERSONAL

British Transport Commission Railway Executive

Sir Cyril Hurcomb, Chairman of the British Transport Commission, has announced the following appointments to the Railway Executive:—

London Midland Region
Chief Regional Officer:
Mr. G. L. Darbyshire
Deputy Regional Officer:
Mr. T. W. Royle.

Western Region
Chief Regional Officer:
Mr. K. W. C. Grand.

Southern Region
Chief Regional Officer:
Mr. John Elliot.

Eastern Region
Chief Regional Officer:
Mr. C. K. Bird.

North Eastern Region
Chief Regional Officer:
Mr. C. P. Hopkins.

Scottish Region
Chief Regional Officer:
Mr. T. F. Cameron.
Deputy Regional Officer:
Mr. T. H. Moffat.

Colonel Eric Gore Browne (Chairman, Southern Railway Company) has agreed to be President of the Railway Benevolent Institution for 1948, and Mr. T. W. Royle (Vice-President, L.M.S.R.) to become Chairman of the Board of Management for that year.

We regret to record the death on November 20, at the age of 82, of Mr. William Stantiall, C.I.E., who retired in 1931 from the positions of Railway Adviser, India Office, and Government Director of Indian Railway Companies, and was afterwards for some years a Director of the South Indian Railway Co. Ltd. and the Rohilkund & Kumaon Railway Co. Ltd.

The late Mr. Andrew Jollie, a Director of the United Steel Cos. Ltd., left £90,115.

INSTITUTION OF CIVIL ENGINEERS

The council of the Institution for 1947-48 is composed as follows:—

President: Sir Roger Hetherington.

Vice-Presidents: Sir Reginald Stradling, Sir Jonathan Davidson, Mr. W. H. Morgan, Mr. V. A. M. Robertson.

Other Members of Council: Mr. H. E. Aldington, Sir Stanley Angwin, Professor J. F. Baker, Messrs. G. Baxter, D. B. Brow (India), W. S. Cameron, F. M. Corkill (New Zealand), H. F. Cronin, Sir Arthur Dean (India), Dr. W. H. Glanville, Mr. Alexander Gray (Canada), Dr. E. J. Hamlin (South Africa), Messrs. A. C. Hartley, G. H. Humphreys, Sir Claude Inglis, Messrs. Leopold Leighton, H. J. B. Manzoni, M. S. Moore (Australia), Professor A. J. S. Pippard, Messrs. A. S. Quartermaine, J. C. L. Train, W. K. Wallace, Sir Arthur Whitaker.

Past-Presidents: Dr. David Anderson, Mr. F. E. Wentworth-Sheilds, Sir Peirson Frank, Sir William Halcrow.

Secretary: Mr. E. Graham Clark.

Colonel R. B. Emerson, C.I.E., O.B.E., Chief Commissioner of Railways, India, who, as recorded in our October 3 issue, proceeded on leave in September last preparatory to retirement, was born in 1897 and was educated at Bradfield College, and at the Royal Military Academy, Woolwich, which he joined from the ranks of the Royal Flying Corps in 1917. He was commissioned in the Royal Engineers in 1918, and served in India, Iraq, and England, until 1927. He was then transferred to civil employment with the Great Indian Peninsula Railway, and served in the Engineering, Transportation, and Stores Departments, and in the General Manager's Office. He was appointed to officiate as General Manager of that railway in 1939, but subsequently reverted to military duty, from which he was released to take up the appointment of General Manager of the same railway early in 1944. Colonel Emerson took up the post of Chief Commissioner of Railways in May, 1946. He attended the International Railway Congress at Lucerne last June. It is understood that both Colonel Emerson and Mr. G. A. Rowlerson, Member, Transportation, Railway Board, India, who also proceeded on leave preparatory to retirement in September last, are retiring with the concurrence of the Minister for Transport (India) because they have formed the opinion that, having regard to the constitutional changes last August, it would be in the greater interests of the Indian railways if the Chief Commissioner and the Member, Transportation, were Indian officers.

Colonel R. B. Emerson

Chief Commissioner of Railways, India, who is on leave preparatory to retirement

---

A portrait and biography of Mr. K. C. Bakhle, General Manager, Bombay, Baroda & Central India Railway, who is succeeding Colonel Emerson as Chief Commissioner of Railways, India, appeared in our issue of April 11 last.

A mission is leaving for Buenos Aires to review methods of maintaining and expanding commercial exchanges; it is led by Sir Clive Baillieu, assisted by officials of the Treasury, Board of Trade, Ministry of Supply and Ministry of Food.

Mr. G. E. P. Thorneycroft has been elected Chairman, and Mr. O. Poole, Honorary Secretary, of the Conservative Party Parliamentary Transport Sub-Committee.

Mr. J. Dearden, M.Sc., A.M.I.Mech.E., has been appointed Acting Chief Metallurgist, L.M.S.R., to succeed Dr. H. O'Neill, who recently resigned the position of Chief Metallurgist to take the Chair of Metallurgy at Swansea University. Mr. Dearden is the author of a number of scientific papers, and of a book entitled "Iron and Steel Today," published in 1939. In 1942 he was awarded the Herbert Jackson Prize.

Mr. A. W. J. Dymond, Assistant to Chief Mechanical Engineer, Great Western Railway, has been transferred from associate membership to membership of the Institution of Civil Engineers.

Guest Keen Baldwins Iron & Steel Co. Ltd. announces that Mr. E. J. Pode and Mr. W. F. Cartwright have resigned from the board on their appointment as Directors of the Steel Co. of Wales Ltd., of which Mr. Pode is now Managing Director. Mr. Thomas Jolly has been appointed Joint Managing Director, Guest Keen Baldwins Iron & Steel Co. Ltd., with Mr. C. R. Wheeler (Mr. Wheeler was previously Joint Managing Director with Mr. Pode). Mr. J. B. Deakin has been appointed Works Manager, East Moors Works, Guest Keen Baldwins Iron & Steel Co. Ltd., Mr. Walter Smith has been appointed Assistant Works Manager, and Mr. P. T. Hughes has been appointed Chief Accountant to the company.

CENTRAL ARGENTINE RAILWAY

Mr. Robert Flack, Assistant General Manager & Chief Accountant, has been appointed Deputy General Manager & Chief Accountant. A portrait and biography of Mr. Flack appeared in our October 11, 1946, issue.

Dr. Raúl Zavalía Lagos has been appointed Administrative & Legal Assistant to the General Manager.

Mr. Norman Walker has been appointed Personal Assistant to the General Manager.

Mr. A. E. Sewell

Appointed Charges Adviser to the British Transport Commission

Mr. George Dodson-Wells

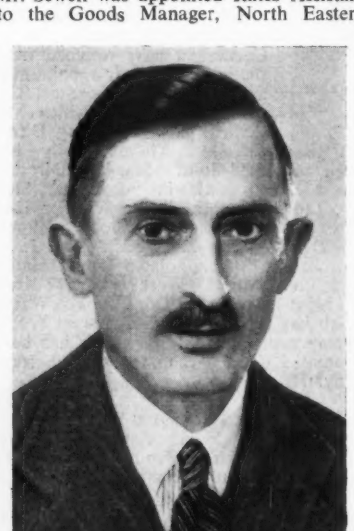
Appointed Acting Chief Public Relations & Publicity Officer, L.P.T.B.

Mr. H. W. Stevens

Appointed Engineer-in-Chief & Deputy General Manager, B.A.G.S.R. and B.A.W.R.

Mr. A. E. Sewell, M.Inst.T., Joint Chairman of the Road-Rail Central Conference, who, as recorded in our November 21 issue, has been appointed Charges Adviser to the British Transport Commission, was born at Whitby and educated at Ackworth School and at Bootham School, York. He joined the North Eastern Railway in 1903, and, after gaining experience in various stations and departments was appointed to a post in the General Manager's Office, subsequently being placed in charge of the Parcels Section of the Passenger Manager's Office. Later he was promoted to the Chief Goods Manager's Office, and from July, 1921, to April, 1922, was released to act as Secretary to the Committee of Goods & Mineral Managers of the "Eastern Group Companies," which was appointed to co-ordinate the arrangements of the seven component companies in anticipation of amalgamation. In 1923 Mr. Sewell was appointed Rates Assistant to the Goods Manager, North Eastern Area, L.N.E.R., and in 1928 was promoted to be Assistant Goods Manager, Southern Area. He was appointed Goods Manager, Southern Scottish Area, in 1934, and, on the formation of the Scottish Area on January 1, 1939, became Goods Manager for that area. He was Chairman of the Railway Clearing House Goods Managers' Conference in 1939 and 1940. In September, 1942, Mr. Sewell, who had been also the Railway Chairman of the Road-Rail Central Conference since its inception in February, 1939, was released from his Scottish duties to give his full time on behalf of the four main-line railways to the work of the Conference, and his appointment as Joint (Railway) Chairman was made permanent in July, 1945, when he relinquished the post of Goods Manager, Scottish Area, L.N.E.R.

Mr. George Dodson-Wells, M.B.E., who as recorded in our November 21 issue, has been appointed Acting Chief Public Relations & Publicity Officer, L.P.T.B., in which capacity he will be responsible for the Public Relations, Press and Publicity Divisions of the Board, entered the journalistic profession in 1926 as a reporter on the *Newark Herald*. Three years later he went to the *Derby Evening Telegraph*, where, after a few months reporting, he became a sub-editor. He went to Paris in 1930, and was for four years on the editorial staff of the Continental *Daily Mail;* he then returned to London to spend three years on the editorial staff of the *Daily Mail*. In 1937 Mr. Dodson-Wells joined the *Morning Post*, and moved to *The Daily Telegraph* when it absorbed the former. Early in 1939 he joined the Queen's Westminster Rifles, Territorial Army; he was called up on September 1, and was commissioned in the Middlesex Regiment in the next year. He served as a Major on the General Staff of General Sir Miles Dempsey's Second Army from its formation to dis-



Mr. C. W. King

Appointed New Works Engineer, Southern Railway

Mr. A. N. Butland

Appointed Assistant to the Chief Engineer (Maintenance), G.W.R.

Mr. H. W. Graham

Appointed District Goods & Passenger Manager, Lincoln, L.N.E.R.

bandment, crossing the Channel on D-Day to take part in the Normandy landings. He was awarded the M.B.E. Before leaving the Army he edited a history of the Second Army's operations. After demobilisation in 1945 Mr. Dodson-Wells served for a year on the editorial staff of *Country Life*, and in October, 1946, he joined the London Passenger Transport Board, and was appointed Public Relations Officer.

Mr. Henry W. Stevens, B.Sc., M.I.C.E., who, as recorded in our October 31 issue, has been appointed Engineer-in-Chief & Deputy General Manager of the Buenos Ayres Great Southern and Buenos Ayres Western Railways, was educated at Hampton Grammar School and graduated from Queen Mary's College (University of London). He received his initial training on various engineering works, and joined the Indented Bar & Concrete Engineering Co. Ltd. in 1923. In 1926 he joined the Buenos Ayres Great Southern Railway as an Assistant Engineer, and was engaged on the design of the new terminal station at Plaza Constitución, Buenos Aires. In the next year he was transferred to constructional work, and he became Construction Engineer for the Vergara-Lezama extension (1929-31); Assistant District Engineer, Plaza Constitución (1931-33); and Construction Engineer for the Pilcaniyeu-Bariloche extension of the Argentine State Railways (1933-34). He returned to headquarters towards the end of 1934 as Assistant Engineer for Water Supply & Power Plant. Mr. Stevens was appointed Inspecting Engineer in 1937, and Maintenance Engineer in August, 1945.

Mr. C. W. King, A.M.I.C.E., London East Divisional Engineer, Southern Railway, who, as recorded in our October 10 issue, has been appointed New Works Engineer, was educated at Dover College and then became a pupil of the late Sir Percy Tempest, then General Manager & Chief Engineer of the South Eastern & Chatham Railway. In 1922 he joined the staff of the Resident Engineer, S.E.C.R., and, after the formation of the Southern Railway, was engaged on constructional works for electrification schemes, including the remodelling of Cannon Street Station, and conversion of the Brighton line. In 1933 and 1934 Mr. King was attached to the London East Division, and in 1935 became Technical Assistant to the Assistant Engineer (General Maintenance), and helped with the organisation for the rearrangement of lines from Waterloo to Wimbledon. Later he acted as Assistant for Electrification Works to the Chief Engineer during the initial stages of the electrification of the Portsmouth line. In July, 1936, Mr. King became Acting Assistant Divisional Engineer, London East Division, and he was confirmed in that post in January, 1937. He was appointed Divisional Engineer for the same division in 1942.

Portraits and biographies of Mr. A. H. Cantrell, London West Divisional Engineer, Southern Railway, who has succeeded Mr. C. W. King as London East Divisional Engineer, and of Mr. S. L. Furnivall, Central Divisional Engineer, who succeeds Mr. Cantrell as London West Divisional Engineer, appeared in our issues of August 23, 1946, and February 15, 1946, respectively.

Mr. A. N. Butland, O.B.E., B.A., B.Sc. (Eng.), A.M.I.C.E., Assistant to the Chief Engineer, Great Western Railway, who, as recorded in our November 7 issue, has been appointed Assistant to the Chief Engineer (Maintenance), entered the company's service in 1924 in the Bridge Section, Chief Engineer's Office, and in 1930 was transferred to the staff of the Divisional Engineer, Cardiff. He returned to the Chief Engineer's Office, in the New Works Section, in 1935, and, after working on the scheme for a new line from St. Germans to Looe, was sent to the Greenford to Ruislip section of the North Acton to Ruislip quadrupling, first as Assistant Resident and later as Resident Engineer. In January, 1940, Mr. Butland was appointed Assistant Divisional Engineer, Taunton, and in May, 1947, was made Assistant to the Chief Engineer, and carried out the repairs to Strangford Viaduct. Mr. Butland had been commissioned in 1930 in the Supplementary Reserve, and posted to the 152 (G.W.) Railway Construction Company, R.E. He was mobilised on the outbreak of hostilities, and was demobilised in August, 1945, with the rank of Lt.-Colonel. He was mentioned in despatches, and was made an O.B.E. for services in North-West Europe.

Mr. H. W. Graham, Assistant District Goods Manager, Leeds, L.N.E.R., who, as recorded in our October 24 issue, has been appointed District Goods & Passenger Manager, Lincoln, joined the N.E.R. in the Newcastle District in 1916, and subsequently had experience at many stations in that district and afterwards in the District Goods Manager's Office, Newcastle. He transferred to the Goods & Passenger Manager's Office, York, in 1933, on claims, and then on staff work. Mr. Graham was Secretary of the L.N.E.R. Goods & Mineral Managers' Conference in 1937. In 1938 he was appointed to a post in the Staff Section, Divisional General Manager's Office, York, and was subsequently Head of the Traffic Section, Head of the Works Section and later Head of the combined Traffic and Works Sections. In 1943 he was appointed Secretary of the L.N.E.R. All-Line Post-War Development Committee dealing with Passenger Department problems. In 1945 Mr. Graham was made Acting Assistant District Passenger Manager, York, and, a year later, Assistant District Goods Manager, Leeds.

Mr. Christian Pineau has been appointed Minister of Public Works & Transport in the new French Cabinet.

Mr. Peter Tuon, Manager of the Grisons Tourist Office (also of the Advertising Department, Rhætian Railways), has arrived in London.

We regret to record the death on November 22 of Mr. Alexander Wannan Donaldson, M.I.C.E., who retired in 1937 from the position of Assistant Engineer, L.M.S.R.

Mr. J. A. Wilks and Mr. W. F. Wright have retired from the Department of the Chief Mechanical Engineer (Railways), L.P.T.B., Mr. Wilks as Assistant Mechanical Engineer (Running), and Mr. Wright as Chief Depot Engineer.

Mr. Henry A. Sire, C.B.E., whose death in his 84th year we recorded briefly last week, retired in 1930 from the position of Chief Commercial Manager, Southern Railway. Mr. Sire, who was the son of the late Mr. Alfred Sire, for many years London representative of the Northern Railway of France, commenced his railway career in 1882 on the L.N.W.R., in the Continental Traffic Superintendent's Office, transferring in 1888 to the Chief Goods Manager's Office. In 1892 he entered the service of the L.C.D.R. as Outdoor Assistant to the Traffic Manager; and after the working union of the S.E.R. with the L.C.D.R. he was made Indoor Assistant Superintendent, S.E.C.R. In 1902 Mr. Sire was appointed Goods Manager of the L.B.S.C.R., and in 1923 he became Chief Commercial Manager, Southern Railway.

Mr. Ashley S. Ward (Chairman of Thos. W. Ward, Limited, and other associated companies) has relinquished the Chairmanship of Lowmoor Best Yorkshire Iron Limited, and Mr. George Wood (Deputy-Chairman of Thos. W. Ward, Limited) has been appointed in his place. Other changes on the board of Lowmoor Best Yorkshire Iron Limited include the election of Mr. C. L. Fry and Mr. W. W. Hickman as Directors, and the appointment of Mr. Fry and Mr. R. Stubbs as Joint Managing Directors. The position of Works Manager has been taken over by Mr. G. F. Hanson.

L.M.S.R. Staff Changes

Mr. E. Fisher, Assistant District Controller, Rowsley, to be District Controller, Rowsley.

Mr. L. E. Prichard, District Veterinary Surgeon & Horse Superintendent, Manchester, to be District Veterinary Surgeon & Horse Superintendent, Birmingham.

Mr. W. L. Sinton, District Veterinary Surgeon & Horse Superintendent, Birmingham, to be District Veterinary Surgeon & Horse Superintendent, Manchester.

Mr. P. Scott Dunn to be Assistant District Veterinary Surgeon, Camden.

Mr. W. S. Hughes, District Traffic Agent, Whitehaven, to be Goods Agent, Wednesbury.

Mr. T. V. Felton, Goods Agent, Albion, to be Goods Agent, Darlaston.

Mr. H. W. Corns, Assistant Chief Staff Clerk, District Goods Manager's Office, Wolverhampton, to be Goods Agent, Albion.

Mr. E. J. H. Hill, District Goods & Passenger Manager's Office, Derby, to be Joint Goods Agent, Loughborough (L.M.S.R. & L.N.E.R.).

Mr. F. Richardson, Chief Parcels Clerk, Nottingham, to be Stationmaster & Goods Agent, Beeston.

Mr. W. Farmer, Stationmaster & Goods Agent, Guiseley, to be Stationmaster & Goods Agent, Corby & Weldon.

Mr. W. R. Richards, Chief Parcels & Accounts Clerk, Birmingham (New Street), to be Passenger Agent, Coventry.

Mr. J. A. Hibbert, Chief Permanent Way Inspector, Manchester, to be Head Permanent Way Inspector, Manchester.

Mr. T. W. Braithwaite, District Road Motor Engineer, Blackburn, to be District Road Motor Engineer, Bradford.

Mr. A. T. Payne, District Foreman, Road Motor Engineer's Department, Manchester, to be District Road Motor Engineer, Blackburn.

Mr. W. E. Withers, District Foreman, Road Motor Engineer's Department, Blackburn, to be District Foreman, Road Motor Engineer's Department, Manchester.

Mr. J. R. Johnson, Assistant District Foreman, Road Motor Engineer's Department, Manchester, to be District Foreman, Road Motor Engineer's Department, Blackburn.

Mr. A. Gardner, Chief Clerk, Garston Dock, to be Assistant Dock Superintendent, Garston Dock.

XUM

British Transport: Rates and Charges*

Broadcast by Mr. A. E. Sewell, M.Inst.T., Chairman of the (Rail) Road & Rail Central Conference

Each form of inland transport in Great Britain has its own method of assessing the charges which it makes for the carriage of merchandise. They all have one common foundation and that is the weight of the goods and the distance over which they are to be carried. I will take the railways first.

The railways do not base their charging arrangements on the cost of working the traffic. It will be appreciated that with locomotives of different size and cost, hauling trains composed of varying numbers of wagons, which in turn are of different sizes, and each loaded with different weights of different kinds of merchandise, some going the full extent of the journey of the train, and others being attached and detached at intermediate places, it is not possible to calculate the exact cost of transporting any individual consignment or description of traffic. A system of charging by classification, therefore, has been evolved, under which various descriptions of merchandise are grouped for this purpose, and all the traffics within each group are charged the same standard rate over the same distance.

In Great Britain the railways divide their merchandise into 21 classes, and the governing factors in deciding into which class each commodity should be placed are value; bulk in proportion to weight; difficulty or ease of handling; quality of packing; and risk of damage. There is no absolute scientific method of deciding the class, and the construction of the classification has been a matter of growth from small and simple beginnings. When the first public railway was opened in 1825, the charging system laid down by Parliament provided for four classes. As time passed, these grew in number by reason of greater refinement of differentiation between one kind of commodity and another, until in 1928 the number of classes was increased to the 21 of today. When entirely new commodities are invented, they find their proper place by analogy with other commodities already provided for.

Mileage Scales of Rates

To the 21 classes of commodity are attached mileage scales of rates to be charged to the public, each scale rising in amount over the preceding one. Although different rates scales are applied to different kinds of goods for precisely the same service, this system is fair because all traders engaged in the same kind of business are charged rates calculated on the same basis; for example, all dealers in cotton are charged rates taken from the same mileage scale, and therefore one cotton merchant is not favoured or prejudiced in the face of his business competitors. Furthermore, because cotton is a more valuable commodity than, for example, roadstone, the higher price per ton which it pays for transport may represent, in fact, a lesser percentage of its intrinsic value, and no hardship is inflicted on the purchaser of cotton goods. Raw materials which are required in large quantities for the manufacture of the more valuable finished articles travel more cheaply than would otherwise be possible.

The rates scales are made up of varying monetary elements, the chief one being what we call the rate per ton per mile; that is a sum for each ton of traffic for each mile of distance it is transported. To ease the burden on long-distance traffic, and because, in general, the cost per ton per mile becomes less as the distance increases, the rate per ton per mile lessens in stages after the twentieth mile, the fiftieth mile, and the hundredth mile. Having ascertained the charge for distance, there are added certain sums called "terminals," which are fixed amounts per ton and do not vary with the length of the journey. They cover the provision of the stations and sidings at each end of the journey, and also, where necessary, the cost of loading into and unloading from the truck and the covering of the merchandise in the truck as a precaution against wet or windy weather.

Additional charges are made when the railway company undertakes cartage over the public roadway between its station and the premises of the customer. In the case of small consignments weighing up to about 350 lb., a small amount is added to the rate per ton charged on bulk traffic as compensation for the extra handling and care which is necessary. Provision is also made for charging exceptional traffics like explosives and dangerous goods; animals such as horses, cows and sheep; and articles of exceptional size and weight.

If a quicker transit than is ordinarily provided by merchandise train is required, the traffic may be sent by passenger train, but the charges are greater. Apart from small parcels of moderate weight, passenger-train services normally do not lend themselves to bulk consignments, except for urgent perishable traffics such as milk, fish and fresh fruit, for which there is a simple form of classification.

Exceptional Rates

Whilst this is an outline in very general terms of the basic principles of the system of charging merchandise by railway, these principles are modified very considerably by the practice of giving exceptional rates at amounts below the statutory scales of charges. Such lower rates are given for the purpose of encouraging the development of trade, and to secure business in competition with other forms of transport. They are published in the rate books as individual rates between named pairs of stations for traffic passing in large quantities. Whilst these exceptional rates are related to the statutory classification and scales, this relationship is not fixed, and they represent such amounts as the railway management, within its discretion, considers appropriate to enable the maximum weight of traffic to travel remuneratively. Approximately 72 per cent. of the revenue derived by the railways from merchandise traffic and 87 per cent. of the weight of such traffic represents consignments carried at exceptional rates.

The transport of merchandise by road-motor vehicles has developed enormously since the first world war, and unlike the railways there has been no statutory control of the charges which may be made by road hauliers. In consequence, each haulier has charged such rates as leave him a margin of profit over his cost of working. The impact of this method of charging on the railway method has resulted in the road haulier securing a large proportion of that traffic of the railways which, by reason of their classification method, was charged at rates considerably higher than the cost of haulage by road. The railways have been forced to reduce their rates for such merchandise to the levels charged by hauliers, and this, added to the loss of traffic to road, has caused them serious financial embarrassment. Furthermore, it is permissible for anyone to purchase a motor vehicle and use it for the transport of his own merchandise, and therefore neither the public road hauliers nor the railways can afford to charge more for transport than it costs a manufacturer or business man to undertake the same service with vehicles he owns himself.

Classification Charges in Jeopardy

It will thus be seen that the old historical method of charging by classification, which is still the basic principle of railway charging, is in jeopardy from the actions of the public road hauliers, who base their charges on the cost of giving the service.

I have not mentioned either canals and inland waterways or transport by steamer along the sea coasts. Canal charges, which are much lower that those of the railways, are fixed by statute on a simple classification basis and there also are many exceptional rates. The canals cater largely for low-grade merchandise passing in large quantities by barge and give a slower service than does rail or road transport. The coastal sea carriers make their own rates and are not bound by statute in any way. They also are slower than railway or road transport and their charges are compensatingly lower.

There has not been time to do more than give a simple outline. The subject is a very complicated one, involving the economic reationships and interactions of one exceptional rate with another, or of one port with another, or of one manufacturing centre with another, and there are many textbooks on the subject.

This is the position of rates and charges for transport in Great Britain today. The solution of the problem caused by the road and railway conflict, is one of the first tasks which the Government proposes to undertake when the internal transport of the country has been nationalised. The rates structures need to be simplified and brought into closer relationship in order to ensure that each form of transport is used in the most economical manner and to the best interest of the nation.

---

* A "Talk" in the series "The Structure of British Industry," broadcast by the B.B.C. in the Chinese language on October 11

American Manager for Travel Association.—To further the development of its tourist promotion activities in America, the British Travel Association has appointed Mr. Louis S. Law as General Manager in the U.S.A. The appointment, which becomes effective on January 1 next, was announced by Mr. J. G. Bridges, Director General of the Association, when he appeared as guest speaker at the American Society of Travel Agents Convention at French Lick Springs, Indiana. Mr. Law began his career with Thomas Cook & Son Ltd. in London.

Nile Bridge Built in England.—The Butterley Co. Ltd. is engaged on the construction of a 7-span lattice bridge to carry the double-track railway over the River Nile at Kafr-el-Zayat, 80 miles up river from Alexandria. Each span will be 230 ft. long, and the first of them, containing nearly 600 tons of steel, has been completed. As recorded in our February 14 issue, the main contractor for the bridge is Dorman, Long & Co. Ltd., Middlesbrough, who will carry out the work of erection in Egypt.

Organisation of French National Railways

Mr. John Elliot, General Manager of the Southern Railway, who took part in the discussion on Mr. F. A. Pope's paper, "Principles of Organisation for Large Undertakings," read before the Institute of Transport on November 10, and reported in our November 14 issue, dealt at some length with the organisation of the French National Railways. Because of the topical interest of the subject we reproduce below a summary of Mr. Elliot's remarks:—

I listened to Mr. Pope's paper with great interest, and I should like to refer to the organisation of the S.N.C.F. as between headquarters and regions, as it has been developed by trial and error since the French National Railways were brought together from January 1, 1938. Earlier this year I made special inquiries as to the organisation of the S.N.C.F., and in doing so I had the advantage of personal discussions at some length with M. Lemaire, Directeur-Général; M. Dargeou, Directeur du Service of the Service Central du Movement; M. Marois, Directeur du Service, Service Commercial; MM. Armand and Boyaux, Directeurs-Général Adjoint, and also received information from M. Sauvajol, Directeur Adjoint, Service du Movement. These officers I have the privilege of calling my friends.

At first the S.N.C.F. was highly centralised, although divided into regions, but it was found that this caused delays, friction, and general unhappiness, resulting in a lower efficiency than had been hoped for. In the early days, of course, the old company loyalties and rivalries died hard, and there were some pretty strenuous battles, over such matters as the suppression of competitive train services, before the regions were brought into line with central policy.

During the German occupation it became necessary to decentralise, and during the period since the end of the war, the S.N.C.F. administration has brought its organisation to finality, which, as I understand it, is as follows:—

At Headquarters there is a Service Central consisting of a number of highly technical officers, working under M. Lemaire as a team, and responsible for the general long-term policy and technical standards of the whole system. The railways are divided into regions corresponding very largely to the original company systems, each of which has a Directeur du Région, who is equal in rank to members of the Service Central, and, in fact, these officers are interchangeable.

The Directeurs des Régions are responsible for everything in their region, except technical services, such as workshops, electrification planning, and so forth. Day-to-day expenditure of new works are disposed of by them direct, or, if over a certain figure or size, are remitted to the Directeur-Général for authorisation.

Now comes the really vital question of how the French with their clear-sightedness and logic have overcome the possibilities of friction between the Service Central and the directors of the regions, particularly where the subordinate officers are concerned. The system which has been adopted is as follows:—

Each member of the Service Central deals direct with his opposite numbers in the regions on matters on long-term planning, standards of maintenance, and so forth, and he calls them to meetings as he finds necessary. Before he calls a meeting of Regional Officers he sends to the Regional Director concerned a copy of the agenda or a note of the subject to be discussed, so that the latter may give his officers guidance on matters generally which may affect the region. Minutes of these matters, and decisions taken affecting the region are then sent to the Regional Directors for their agreement, and if there should be disagreement which cannot be resolved with the officer of the Service Central who held the meeting with the Regional Officers, the Regional Director must report the disagreement to the Directeur-Général with his views.

The matter is then resolved as follows:—M. Lemaire holds frequent conferences with Regional Directors, at which some or all members of the Service Central are present, and at these meetings any points of disagreement are settled by the Directeur-Général between one and the other. As a result of this firm method of grasping the difficulty, the S.N.C.F. officers tell me that the number of disagreements is comparatively few.

No member of the Service Central on his own authority can over-ride a Regional Director; only the Directeur-Général can do this, or his deputies acting for him and with his consent. On the other hand, the Regional Directors, through their frequent contact with the Directeur-Général and the Service Central are well aware of the policy to be followed, and do their utmost to carry it out.

The results speak for themselves. All who have visited France since its liberation will agree with me in paying tribute to the wonderful progress of reconstruction which has been achieved, first under M. Goursat, and now under M. Lemaire. Personally, I am of the opinion that the S.N.C.F. must be one of the most efficiently run railway systems in the world at the present time.

L.N.E.R. Experiments with Tarpaulins

Wide interest is being shown in the experiments which are being made by the L.N.E.R. in the application of modern processes to the manufacture of wagon sheets and cartage sheets (see also our July 4 issue). Several dock, canal, and road transport undertakings have asked to be informed of the results of the experiments, and inquiries have been received from the Continent of Europe, and from as far afield as Australia.

The traditional types of wagon sheet and cartage sheet are made from flax canvas with a dressing of linseed oil and bauxite. They are heavy and cumbersome to handle, and tend to become either hard or sticky in use. The L.N.E.R. experiments aim at eliminating these disadvantages without sacrificing waterproof properties. As the company's capital investment in wagon sheets is more than £1,500,000, the field for potential economy also is considerable.

After preliminary research into different methods of proofing, the experiments are in the main being concentrated on Neoprene, a type of proofing which was developed for use in the Pacific war, and which gave excellent service in severe climatic conditions.

Experiments are being made also with Neoprene proofing on a nylon cloth specially constructed for the purpose. Laboratory tests show that this cloth is exceptionally strong and resistant to bacteria, fungi, and other deleterious agencies. It is also non-inflammable. This cloth is not yet in large-scale production, but a sufficient quantity has been made available for comprehensive trials.

Many hundreds of wagon sheets and cartage sheets are being manufactured in flax-Neoprene and nylon-Neoprene, and now are being put into traffic for practical tests, the results of which will guide future policy.

For cartage purposes a third type of sheet is being tried, made from a heavy cotton canvas with a special proofing.

New L.N.E.R. Wagon Sheets in Service

Inspection of new wagon sheets at Marylebone. Left to right: Mr. Geoffrey H. Kitson, Director, L.N.E.R., and Chairman of Stores Committee; Mr. A. Forbes Smith, Traffic Stores Superintendent; Mr. H. Cheetham, Wagon Sheet Controller; and Mr. A. R. Wilson, Cartage Manager (Southern Area)

Parliamentary Notes

Steel Supplies

Mr. H. A. Marquand (Paymaster-General) in the House of Commons on November 20, announced the introduction of a selective system of priorities to ensure supplies of steel for programmes contributing to exports or saving of imports.

The statement by Mr. Marquand was as follows: Early in 1947 a special priority was given to the requirements of programmes which contribute to the expansion of fuel and power resources. This involved the grant of special priority symbols for the whole of the approved steel requirements for those programmes. These programmes absorb a large proportion of all steel available.

It is now necessary to assure supplies of steel, as far as is possible, for programmes which contribute to exports or, like agriculture, to the saving of imports. To add the whole of these large programmes to the existing priority programmes would create a position in which the priority element in steel would exceed the non-priority element, with the result that the priority label would tend to become meaningless.

The machinery for the allocation of steel is now under review with the object of ensuring that deliveries of steel more closely match the allocations. It will thus become possible gradually to reduce bulk priority authorisations without detriment to the carrying out of the programmes concerned.

It has been decided to introduce concurrently a strictly limited system of selective priorities, by means of which departments responsible for the existing priority programmes, or for export or import saving programmes, will be able to authorise the use of the priority symbol to a very limited extent, and in specific cases where essential production might be held up for lack of particular quantities of steel. I must emphasise that, as soon as this scheme is in operation, priority in supply of steel will apply only to orders duly authorised on a form which bears the initials P.M.L.

Questions in Parliament

Idle Railway Wagons

Mr. R. J. G. Boothby (East Aberdeenshire—C.) on November 3 asked the Minister of Transport whether he was aware that miles of railway wagons were standing idle on the line between Ellon and Boddam; and what action it was proposed to take regarding that.

Mr. L. J. Callaghan in a written answer stated: The Ellon-Boddam branch line is one of the places used for storing wagons awaiting repair. For some months breakdowns have exceeded the number of repairs, but in September more wagons were put into service than broke down.

Wagons Standing under Inward Load

Mr. J. A. Sparks (Acton—Lab.) on November 10 asked the Minister of Transport if he would state the number of wagons on the four main-line railways standing under inwards and outwards load for more than 48 hours on any average day at the nearest convenient date.

Mr. L. J. Callaghan (Parliamentary Secretary, Ministry of Transport) stated in a written answer: The number of wagons standing under inward load more than 48 hours at close of work on Friday, October 24, was 20,206, but this does not include wagons covered by standage schemes. Figures for wagons under outward load are not available.

Statutory Rules and Orders.

Sir Wavell Wakefield (Marylebone—C.) on November 11 asked the Financial Secretary to the Treasury how many persons were now authorised to sign Statutory Rules and Orders on behalf of the Minister in each of the following departments: Board of Trade, Ministry of Health, Ministry of Fuel & Power, Ministry of Transport, and Scottish Office.

Mr. Glenvil Hall (Financial Secretary to the Treasury) stated in a written answer: Board of Trade, 9; Ministry of Health, 13; Ministry of Fuel & Power, 6; Ministry of Transport, 10; and the departments of the Secretary of State for Scotland, 21.

Railway Receipts

Mr. J. A. Sparks (Acton—Lab.) on November 17 asked the Minister of Transport if he would state the gross receipts from railway working on the four main-line railways in 1947 to the nearest convenient date and the comparable periods in 1946 and 1945, disregarding for that purpose any increases in rates and charges made since 1945.

Mr. L. J. Callaghan: The gross receipts from traffic originating on the four main-line railways (including joint lines) for the 44 weeks ended November 2, 1947, expressed at 1945 levels of rates and charges, and the comparative figures for a similar period in 1946 and in 1945, are estimated to be £221 million, £255 million and £292 million, respectively.

Mr. Sparks: To what cause does this Parliamentary Secretary attribute this reduction in revenue?

Mr. Callaghan: To two factors, I should think; the decline in passenger traffic, and the decline in freight traffic on Government account.

E.C.I.T.O. Subscriptions

Mr. Thomas Reid (Swindon—Lab.) on November 5 asked the Minister of Transport what European countries had failed to subscribe to the European Central Inland Transport Organisation; and what member states had failed to pay their subscriptions.

Mr. L. J. Callaghan, in a written answer, stated: Membership of the European Central Inland Transport Organisation was purely voluntary. It was not open to ex-enemy countries. The member countries who have not paid their subscriptions in full are Russia, Jugoslavia, and Poland.

Everall Railway Bridging

Mr. C. Osborne (Louth—C.) on November 3 asked the President of the Board of Trade what quantity of Everall railway bridging had been sent to Poland as a free gift from the British Government; from what areas had it been sent; and on what dates.

Mr. A. G. Bottomley (Secretary for Overseas Trade) in a written answer stated: 11,000 tons. I understand from the Minister of Supply that the bridging came from surplus stocks held at an Army depot at Longmoor, Hampshire, and was shipped between March and July, 1946.

Report of Fog Problems

Squadron-Leader M. C. Hollis (Devizes—C.) on November 17 asked the Minister of Transport when the report of fog problems on the railway would be published.

Mr. L. J. Callaghan: I presume Squadron-Leader Hollis refers to the report mentioned in my reply to Brigadier F. Medlicott (Norfolk East—Lib. Nat.) on November 4. This report has not been prepared with a view to publication, but I will consider this point further when I receive it.

Squadron-Leader Hollis: Can the Parliamentary Secretary hold out any hope of his using the butt end of his new broom to obtain the report as rapidly as we had hoped?

Mr. Callaghan: I think the report will be with us very quickly.

Freight Traffic Tonnage

Mr. J. A. Sparks (Acton—Lab.) on November 17 asked the Minister of Transport if he would state the freight traffic tonnage originating on the four main-line railways, including free hauled, for 1947 to the nearest convenient date and for the comparable periods in 1937 and 1938, indicating what factors were responsible for any reductions and by what percentages the figures for 1947 compared with 1937 and 1938.

Mr. L. J. Callaghan: As the answer contains a number of figures, I will circulate it.

Mr. Sparkes: Will the figures confirm the answer given last Monday, that there was an increase of 20 per cent. in railway freight traffic this year compared with 1938?

Mr. Callaghan: It depends what is meant by "freight traffic." In the answer given last week it was defined in terms of ton-miles. This is given in terms of the actual traffic originating, so the basis will be different.

Later, Mr. Callaghan circulated the following statement:—

Particulars of the amount of railway freight traffic inclusive of free-hauled traffic are not available since the war.

The volume of originating freight traffic exclusive of free-hauled traffic on the main-line railways (including certain associated lines) during the first 36 weeks of 1937, 1938 and 1947, was as follows :—

	(000 tons)
First 36 weeks 1937	204,008
,, 36 ,, 1938	184,/ 2
,, 36 ,, 1947	171,989

The originating traffic for the current year is thus about 15½ per cent. below that of 1937 and 7 per cent. below that of 1938.

The traffic figures for 1947 have been adversely affected by the exceptionally bad weather in the early part of the year.

Embargoes on Goods Traffic

Lt.-Colonel J. H. Hare (Woodbridge—C.) on November 17 asked the Minister of Transport whether he would arrange that agricultural machinery and requisites were granted exemption from any embargoes placed on goods traffic on the railways.

Mr. J. L. Callaghan stated in a written answer: No. Embargoes are imposed to relieve congestion, and adding to the list of exemptions defeats this object. There is adequate machinery for securing quick acceptance of urgent consignments through embargoes.

Burma-Siam Railway

Dr. Somerville Hastings (Barking—Lab.) on November 10 asked the Secretary of State for Foreign Affairs whether His Majesty's Government had come to a decision about selling to the Siamese Government the railway known as the "Railroad of Death," which ran between Siam and Burma and had been built by the Japanese during the war mainly by the labour of British prisoners-of-war; and what price was being paid for it.

Major C. P. Mayhew (Parliamentary Under-Secretary of State for Foreign Affairs) in a written answer stated: Yes. An agreement was reached with the Siamese Government, on October 4, 1946, for the sale to it of that portion of the Burma-Siam railway which lies in Siamese territory, for £1,250,000.

Modernised Refreshment Room at Fenchurch Street, L.N.E.R.

A new combined refreshment and waiting room at Fenchurch Street Station, L.N.E.R., was opened on November 25 by Sir Charles Newton, a Director of the company and formerly Chief General Manager.

In declaring the room open, Sir Charles Newton said the scheme of improvement in catering services embarked on just before the war had been resumed with even greater enthusiasm. More and more people were eating out, and he hoped the L.N.E.R. had been quick to recognise the needs of the people and give them the facilities required. New refreshment rooms were being provided at Lowestoft, Peterborough, Leeds, York, Newcastle, Harrogate, and Hull. There were strong rumours that the company's catering was being taken over by a large firm of contractors, but these were without foundation, and they had no intention of throwing their public to the lions.

Much of the credit was due to Mr. E. K. Portman-Dixon, who was responsible for refreshment rooms throughout the line. This was their first combined refreshment and waiting room, and they hoped to have them also at King's Cross and Liverpool Street. A suitable slogan for the new rooms would be, "Here you can wait without eating and eat without waiting." A feature of the decorative scheme at Fenchurch Street was the display of the company's best pictorial posters in bronze frames. In conclusion, Sir Charles Newton congratulated the contractor for the work, David Burkle & Sons Limited.

Among those present at the opening ceremony were the following:—

Messrs. V. M. Barrington-Ward, member, Railway Executive; C. K. Bird, Acting Divisional General Manager, Southern Area; A. E. H. Brown, Assistant Divisional General Manager, Southern Area; M. A. Cameron, Assistant Passenger Manager, Southern Area; George Dow, Press Relations Officer; L. J. Moorcock, London District Passenger Manager; and M. B. Thomas, Assistant Advertising Manager.

In its new form the refreshment room embraces almost the whole width of the station concourse at platform level and offers a more comprehensive service and improved methods of food preparation in lighter, brighter and more airy surroundings. The exterior is principally in stainless steel, polished plate glass, and pre-cast terrazzo slabs. A notable feature is the almost complete front wall of glass, giving the maximum natural light. The interior is panelled in two distinct schemes, one in medium oak and the other in figured golden birch.

A Conabar coffee making machine, similar to that recently installed at Marylebone (see our November 7 issue) is included in the equipment. This machine was designed and developed in co-operation with the L.N.E.R. by Mr. Arthur C. Gray, General Manager of the Cona Coffee Machine Company. The two cash registers are of an improved design, made by the National Cash Register Co. Ltd. at its new factory in Dundee.

L.N.E.R. Ilford and Woodford Line Services.—On and from Sunday, November 30, the L.N.E.R. train service between Ilford and Woodford will be withdrawn, and a special bus service will operate between Ilford and Roding Valley Halt, calling at Newbury Park, Barkingside, Fairlop, Hainault, Grange Hill, Chigwell, and Woodford stations. On Sunday, December 14, this special bus service will be withdrawn as between Ilford and Newbury Park, but will continue to operate between Newbury Park and intermediate stations to Roding Valley Halt *via* Woodford. As from Sunday, December 14, the service of L.N.E.R. trains between Leytonstone and Woodford will be withdrawn, and a revised service will operate between Woodford, Loughton, Epping and Ongar. The withdrawn services will be replaced by the extension of London Transport Central Line trains from Leytonstone to Woodford, calling at Snaresbrook and South Woodford; and by the opening of the new section of the Board's railway from Leytonstone to Newbury Park, with intermediate stations at Wanstead, Redbridge, and Gants Hill. To provide a parcels service in districts served only by London Transport trains, the L.N.E.R. is opening parcels depots and parcels agencies in the neighbourhood of the stations affected for the acceptance of parcels traffic and passengers' luggage in advance; for the acceptance of orders for collection by the company's motors; and for general parcels inquiries.

Notes and News

Agreed Charges.—Applications for the approval of 127 further agreed charges under the provisions of section 37 of the Road & Rail Traffic Act, 1933, have been lodged with the Transport Tribunal. Notices of objection must be filed on or before December 9 next.

Southern Railway (Extension of Time) Order.—The Minister of Transport has made the Southern Railway (Extension of Time) Order, 1947 (S.R. & O., 1947, No. 2338), relating to the acquisition of certain lands. Copies of the Order may be obtained from the Clerk of Stationery, Ministry of Transport, Berkeley Square House, London, W.1, price 1d. (post free, 2d.).

Permanent Way Institution, Manchester & Liverpool Section.—It has not been found possible to arrange for a Section dinner in December as hoped. The annual meeting of the Section will be held at 20, Mount Street, Manchester, on December 13, commencing at 2.30 p.m.; at the conclusion of other business, a film on "Arc Welding" in technicolour, with running commentary, will be shown.

Director of Accounts: British Transport Commission.—The British Transport Commission is advertising for a Director of Accounts, who will be in charge of the Accounts Division of the Comptroller to the Commission, and will take responsibility for the compilation and design of the consolidated accounts of the Commission and for supervising and co-ordinating schemes of accounting throughout the organisation of the Commission. For further particulars, see Official Notices, page 631.

Staggered Office Hours in City.—A total of 23,000 City of London banking, insurance, and other commercial workers are now working on staggered hours to relieve travel conditions. The City of London Transport Group, set up by the Ministry of Transport with the support of London Transport and the main lines to devise staggering measures, has reported that the total of staggered City banking workers is now 13,500. Formerly working from 9 a.m. to 5 p.m., most of these workers now have been distributed between 8.45 and 9.15 in the morning, and 4.45 and 5.15 in the evening, or at other times outside the peak. Four thousand City of

The Royal Honeymoon Train, Southern Railway

Left: H.R.H. The Princess Elizabeth and The Duke of Edinburgh being greeted by Colonel Eric Gore-Browne, Chairman, and Mr. John Elliot, General Manager, Southern Railway at Waterloo before their departure for Romsey on November 20. Right: The decorated front of the locomotive hauling the Royal train

London insurance workers from 19 companies are now arriving at and leaving their work outside the rush hours. Ten City of London commercial firms, with a total staff of 5,550, also have adjusted their hours.

G.W.R. (Extension of Time) Order.—The Minister of Transport has made the Great Western Railway (Extension of Time) Order, 1947 (S.R. & O., 1947, No. 2339), relating to the completion of railways and the acquisition of lands therefor. Copies of the Order may be obtained from the Clerk of Stationery, Ministry of Transport, Berkeley Square House, Berkeley Square, W.1, price 1d. (post free, 2d.).

A.E.C. Final Dividend.—At a meeting of the board of the Associated Equipment Co., Ltd., held on November 17, it was decided to recommend a final dividend on the ordinary stock of 1s. 6d. per £1 of stock, free of income tax, making 2s. 6d., free of income tax, for the year ended September 30. The net profits for the year, subject to final audit, were £237,500, as against £282,500 in the preceding year.

North Western of Uruguay Debentures.—The committee representing the holders of the 6 per cent. second debenture stock (1894) has, in accordance with the powers conferred by the scheme of arrangement, approved by the stockholders in December, 1946, extended the moratorium of interest up to December 31, 1948. It has been decided, in agreement with the committee, to make a payment of the interest in arrear in respect of the years ended December 15, 1937, and December 15, 1938. This payment will be made on December 15 next.

Fume Removal at Acton Works, London Transport.—A large quantity of worn parts removed from electric railway rolling stock is reclaimed at the London Transport Acton Railway Works by means of the oxy-acetylene welding process. With the object of improving working conditions for the staff so employed, a new fume-removal system has been installed recently. The apparatus comprises a number of intake heads, each mounted at a welding table and so constructed that the operator can adjust its position to suit the work in hand. The screen enclosing the welding area carries, in addition to the oxygen and acetylene service pipes, a duct to which each of the adjustable intake heads is connected, the requisite draught being provided by an electric fan. The equipment, which was designed and constructed in the workshops of the Chief Mechanical Engineer, not only ensures healthy and comfortable working conditions for the welding staff, but also contributes materially to the ventilation of neighbouring shop areas by preventing the dissipation into them of undesirable fumes.

Collision at Baildon, L.M.S.R.—A collision occurred at Baildon, near Bradford, on November 24 between the 5.10 express from Bradford to Morecambe, and the 5.15 train from Bradford to Ilkley. Twenty passengers were injured, mostly in the rear coaches of the Morecambe express. The engine of the Ilkley train was derailed. The express had been diverted *via* Baildon for several days on account of the subsidence of Eastburn Bridge, near Steeton, on the main line to Skipton *via* Keighley.

French Rates and Fares in New Increases.—The French Cabinet on November 14 decided to raise gas and electricity prices by 45 per cent., railway passenger fares, underground, and city bus fares by 25 per cent., and railway goods fares by 28·5 per cent. The Cabinet instructed the Labour Minister, M. Daniel Mayer, to summon the Basic Wage Commission (composed of Labour Ministry officials, union, and employers' representatives) to examine a change in the "vital minimum" wage standard. This followed demands by the General Confederation of Labour that the "vital minimum" be raised from fr. 8,000 to fr. 10,800 a month.

Argentine Railway Strike.—An unofficial strike of stationmasters, signalmen, guards, and other key workers on the B.A.G.S., B.A. Western, B.A. & Pacific, and Central Argentine Railways began at midnight on November 20-21. The Argentine State Railways were not affected by the stoppage. It was announced by the strikers that the strike would last for 24 hr., and that similar strikes would occur on alternate days. The men were demanding higher wages to meet the increasing cost of living. A second strike took place on November 23, negotiations on the wage claim having failed to settle the dispute. On November 24, however, the strikes were suspended pending announcement of a Government plan to meet their demands.

Southern Railway Fuel Economy Courses.—As part of a fuel saving campaign, the Southern Railway, in conjunction with the Ministry of Fuel & Power, has been carrying out a series of stoker demonstrations on domestic hot water

Extractor System for Acton Welding Shop

One of the intake heads with adjustable mounting

British and Irish Railway Stocks and Shares

Stocks	Highest 1946	Lowest 1946	Prices Nov. 25, 1947	Rise Fall
G.W.R.				
Cons. Ord.	61½	54½	55	—
5% Con. Pref. ...	126½	107	117½	+ 1
5% Red. Pref. (1950)	106½	102½	99½	+ 1
5% Rt. Charge ...	140½	122½	130½	+ 1
5% Cons. Guar. ...	137½	118½	128½	+ 1
4% Deb.	129½	106	120½	+ ½
4½% Deb.	129½	107	120½	+ 1
4½% Deb.	130½	114	122½	+ 1
5% Deb.	142½	125	132½	—
2½% Deb.	95½	81½	88½	—
L.M.S.R.				
Ord.	30½	26½	28¼	+ ½
4% Pref. (1923) ...	64	52½	59	+ ½
4% Pref.	86	75½	80	+ ½
5% Red. Pref. (1955)	105½	97	97½	—
4% Guar.	108½	100	101	+ ½
4% Deb.	120	103	111½	+ ½
5% Red. Deb. (1952)	108½	105½	100½	—
L.N.E.R.				
5% Pref. Ord. ...	7	5	6½	—
Def. Ord.	3½	2½	3½	—
4% First Pref. ...	59½	50½	55	+ ½
4% Second Pref. ...	29½	25¾	27¾	—
5% Red. Pref. (1955)	104	97	96½	+ 1
4% First Guar. ...	107	98	100	+ ½
4% Second Guar. ...	101	90	94	—
3% Deb.	104	87½	97	—
4% Deb.	119½	102½	111	+ ½
4½% Sinking Fund Red. Deb. ...	107½	101½	99½	+ 1
SOUTHERN				
Pref. Ord.	79½	70	72	+ ½
Def. Ord.	24	19½	23½	—
5% Pref.	125½	107	116½	+ 1
5% Red. Pref. (1964)	115½	106½	107½	+ 1
5% Guar. Pref. ...	137½	119	128½	+ 1
5% Red. Guar. Pref. (1957)	115½	107½	107½	+ 1
4% Deb.	129½	105½	120½	+ ½
5% Deb.	139½	125½	130½	+ 2
4% Red. Deb. (1962-67)	113½	104½	106½	+ 1
4% Red. Deb. (1970-80)	115½	104½	108½	+ 2
FORTH BRIDGE				
4% Deb.	109	103	99½	—
4% Guar.	105	102	95½	—
L.P.T.B.				
4½ "A"	133½	120½	123½	—
5% "A"	142½	130½	132½	+ 1
3% Guar. (1967-72)...	108	98½	99½	+ 1
5% "B"	128½	117½	119½	—
"C"	64½	56½	61½	—
MERSEY				
Ord.	34	30	32½	—
3% Perp. Pref. ...	76	69	70½	—
4% Perp. Deb. ...	117½	103	108	+ 1
3% Perp. Deb. ...	98	81	89½	+ 1
IRELAND*				
BELFAST & C.D.				
Ord.	8½	6	7½	—
G. NORTHERN				
Ord.	41¾	30½	25½	+ 4½
Pref.	63¾	52	38	—
Guar.	97½	78½	72	—
Deb.	107	97½	87	— 3
IRISH TRANSPORT				
Common	19/2½	16/9	13/3	—
3% Deb.	107	100	101	—

* Latest available quotation

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

CIVIL ENGINEER, age 47, B.Sc. (Eng'g), Lond. 1st Class Hons., A.C.G.I., M.I.C.E. 25 years Indian experience in executive and administrative control of large engineering projects, railway constructions, bridge building, etc., seeks post with firm of Consulting Engineers, Engineering Specialists, Contractors, etc. Partnership considered.—Box 217, *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

THE RAILWAY HANDBOOK provides the railway student with a collection of useful statistics and information relating to the railways of Great Britain and Ireland. In addition, in matters of international interest, such as speed and electrification progress, the book extends its scope to cover the whole world in order to present a complete picture of these increasingly-important developments. 120 pp. Dy. 8vo. Paper covers. *Price* 5*s*. *By post* 5*s*. 3*d*.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Method. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 190 pages Medium 8vo. Full cloth. *Price* 20*s*. *By post* 20*s*. 6*d*.

Post of Director of Accounts

THE BRITISH TRANSPORT COMMISSION invites applications from candidates for the post of Director of Accounts. The Director will be in charge of the Accounts Division of the Comptroller to the Commission, reporting direct to the Comptroller and taking responsibility for the compilation and design of the consolidated accounts of the Commission, and for supervising, co-ordinating and guiding the schemes of accounting throughout the organisation of the Commission generally. Candidates should be between 35 and 50 years of age, and must have had considerable and varied experience of large-scale accounting/administration in both commercial and public enterprise, if possible, and must have been personally in control, or have assisted in the control, of big organisations. A knowledge of the transport world will be an advantage, but greater importance will be attached to the candidate's understanding of the trend in accounting techniques and outlook at home and abroad; to his ability to present modern accounts in clear and concise form; and to his capacity for new and constructive thinking on the problems which will arise. Specialised experience in the costing and audit fields is not required. A first class general education is essential. Salary will be between £2,000 and £3,000 per annum. The successful applicant, if not already participating in a Superannuation Scheme at present administered by one of the bodies to be merged in the undertaking of the Commission, will be required to become a participant in the future superannuation scheme of the Commission, and the above salary will be subject to superannuation contribution. All applications, with full details of age, qualifications, previous posts and general experience, and names of two referees, to reach the COMPTROLLER, BRITISH TRANSPORT COMMISSION, 55, Broadway, Westminster, London, S.W.1, not later than December 16, 1947.

WANTED to commence as soon as possible: Foreman Engineer to take charge of a Wagon Repair Yard in the Bristol Area. Competent man required, able to control and instruct foreign labour. —Apply in writing to PERSONNEL MANAGER, INTRADE LIMITED, Civil Engineering Contractors, Intrade House, Little Warley, Brentwood, Essex.

BRITISH WORK ON PERSIAN RAILWAYS. The achievements and difficulties of the R.Es. during the 15 months in which they laid the foundation for effective aid to Russia. Reprinted from *The Railway Gazette*, February 2 and 16, 1945. *Price* 1*s*. *Post free* 1*s*. 2*d*.

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiment. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. *Price* 2*s*. *Post free* 2*s*. 3*d*.

THE RAILWAY SYSTEM OF JAMAICA. A general description of the system and its traffics, with an account of economic problems; the motive power used; and some features of operation. By H. R. Fox, B.Sc., M.Inst.C.E., General Manager, Jamaica Government Railway. Reprinted from *The Railway Gazette*, January 5 and 12, 1945. *Price* 1*s*. *Post free* 1*s*. 2*d*.

RAILWAY AMALGAMATION IN GREAT BRITAIN. By W. E. Simnett. An authoritative account of the course of railway amalgamation in Great Britain up to the end of 1923. Cloth. 8¼ in. by 5¼ in. 276 pp. 15*s*. *By post* 15*s*. 7*d*.

boilers. As a sequel to these demonstrations, a series of refresher courses has been arranged at Dover, Brighton, Bricklayers Arms, and Southampton in readiness for the coming winter. The syllabus includes lectures and specially-prepared films in the mornings, and practical demonstrations in the afternoons. Temperature charts and boiler house instructions have been sent to every depot for the guidance of the staff. Mr. W. G. Pape, O.B.E., Economy & Salvage Liaison Officer, is in charge of this campaign, which is only one of the company's efforts for fuel economy.

Railway Benevolent Institution New Year's Day Collection.—A New Year's Day collection in aid of the Railway Benevolent Institution will be made on January 1, 1948, at all railway stations in Great Britain and Ireland. The number of railway employees who became members of this year's casualty fund was 205,942, and assistance has been rendered to 125 widows of men killed, 543 widows of men dying from illness and 3,767 men accidentally injured, total of 4,435 cases relieved, or one in every 46 contributors. It is hoped that the travelling public will generously augment the contributions of the railwaymen.

French Railway Strike.—A general strike of workers on the French railways was called by the leaders of the Confédération Générale du Travail on November 25. Stoppages on various parts of the system had been occurring since November 23, on which date there was a complete standstill at the Gare de Lyon in Paris. Passengers were conveyed by road to Corbeil, Moulin, and Laroche, from which points trains were running. Services to the Channel ports from the Gare du Nord and the Gare St. Lazare were delayed, and trains between Calais and Paris could not be guaranteed beyond Creil, 36 miles north of Paris. On November 24 the normal "Golden Arrow" express between Paris and Calais was cancelled, but a substitute train was put on in its place. This ran with the engine tender-first from Paris to Creil, because no turntable men were on duty. The engine was turned at Creil. Passengers crossed the Channel in the ss. *Canterbury*, and the Southern Railway "Golden Arrow" left Dover for Victoria 3 hr. late. In the opposite direction the service from London arrived in Paris 1 hr. behind time. The Newhaven—Dieppe service functioned normally. A substitute train was again operated on November 25 in place of the "Golden Arrow" between Calais and Paris. The General Secretary of the C.G.T. stated on November 25 that the union was demanding a provisional 25 per cent. wage increase, and an examination of wages in relation to prices every three months.

Institution of Railway Signal Engineers.—The "question and answer" meeting has always been popular at the Institution of Railway Signal Engineers, and that held on November 18 was no exception. Mr. A. Moss, a Vice-President, took the chair, as the President, Mr. F. L. Castle, has been ordered a complete rest by medical advice. The debate was directed by Mr. F. Edwards, who read the questions submitted with some considered replies, and summed up the results of the discussion on each one. To promote full freedom of debate and comment it was decided not to publish the names of speakers. Considerable diversity of opinion was evident in connection with some of the questions; and the discussion brought out strongly the effects of local circumstances on the choice of apparatus and methods of operation, as well as the influence exerted by early legislation and customs. The advisability of avoiding dark signals in the event of failure and of providing the driver with a location aspect in emergency was strongly stressed. Special arrangements for meeting the requirements of Rule 55 also provoked much comment. The variety of problems facing the signal engineer and the need for flexibility in applying the various possible solutions were particularly stressed in the debate, which touched on many detailed points. Moving a vote of thanks to Mr. Edwards, Mr. Moss announced that the council had been able to consider holding in January, in London, another series of signalling lectures, repeating, with some modifications, those given some time ago, which had proved very successful. It had also proved possible to arrange for meetings in the provinces, and on December 9 Mr. D. Shaw would read a paper in Manchester on automatic switching of teleprinters. On December 17 in London Mr. H. W. Firminger would give one on signal installation work on the L.P.T.B. lines.

Forthcoming Meetings

December 1 (*Mon.*)—The Institute of Transport, Metropolitan Section, Livingstone House, Broadway, S.W., at 5.30 p.m. for 6 p.m. "Carriage-Paid Conditions for Goods by Merchandise Train," by Mr. R. F. Woodhouse, Graduate (to be read on his behalf by Mr. M. F. Barnard).

December 2 (*Tues.*)—The Institution of Civil Engineers, Great George Street, Westminster, at 5.30 p.m. "The Heysham Jetty," by Professor A. L. L. Baker, B.Sc., Tech., M.I.C.E.

December 8 (*Mon.*)—The Institute of Transport at the Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 5.30 p.m. Henry Spurrier Memorial Lecture by Mr. H. T. Dutfield, M.Inst.T.

December 9 (*Tues.*)—The Institution of Civil Engineers, Great George Street, Westminster, S.W.1, at 5.30 p.m. "Present and Future Developments in the Use and Design of Mechanical Earth-Moving Plant," by Mr. J. L. Sturrock and Mr. D. J. Simmons, B.A., Stud. I.C.E.

December 9 (*Tues.*).—The Institution of Railway Signal Engineers, at Manchester College of Technology, 6 p.m. "Automatic Switching applied to Teleprinter Working," by Mr. D. Shaw.

December 11 (*Thurs.*)—Southern Railway Lecture & Debating Society, at the Chapter House, St. Thomas' Street, London Bridge, S.E.1, at 5.45 p.m. Debate with G.W.R. at Paddington; Motion: "That first class accommodation in trains be discontinued."

December 17 (*Wed.*).—The Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, London, W.C.2, at 6 p.m. "Signalling Installation Work on London Transport System," by Mr. W. H. Firminger.

Railway Stock Market

International uncertainties have had a restraining influence on stock markets this week, although the general undertone was firm apart from British Funds, both long- and short-dated stocks easing pending Monday's announcement of redemption terms in respect of the £300 million of 3 per cent. conversion stock. Most of the latter is said to be held by Government departments, and the market is therefore of opinion that an offer to convert into a 2½ per cent. stock might be made, assuming Sir Stafford Cripps wishes to reinforce the cheap money policy. Even so, existing market conditions and trends can hardly be said to favour 2½ per cent. interest on British Transport stock, and there are growing hopes of 2¾ per cent. or 3 per cent. Although, even at this late hour, with little scope for a big rally in gilt-edged stocks before the end of the year (unless official support for the market were resumed) it is being assumed in the City that the Government has not abandoned the hope of making British Transport stock a 2½ per cent. security.

Home rails, although not notably active, have responded to moderate demand, and very little selling has been reported. L.N.E.R. debentures attracted buyers in view of the margin between market prices and take-over levels, and L.N.E.R. and L.M.S.R. preference were also favoured on similar grounds. Moreover, there has been better demand for ordinary stocks, notably Great Western, and L.M.S.R. ordinary at 28¼ is now within 1½ of the take-over price. Southern preferred ordinary (5½ below "take-over") also received attention, and Southern deferred at 23½ is only ½ below "take-over." Some market men are still of the opinion that the final dividends on the ordinary or equity stocks are likely to create a good impression; but in the absence of any official statement indicating the full significance of the section of the Transport Act dealing with dividend payments the whole position is very difficult to assess.

London Transport stocks have come in for more business, and the "C" has strengthened to 63 at the time of writing. Elsewhere, Metropolitan Assented stock improved to 55½. Prevailing belief in the market is that over the next few weeks, home railway stocks gradually should approximate more to their take-over levels, and that all points considered, it would be foolish to sell at this stage.

Even if Sir Stafford Cripps feels that it will be impossible to limit British Transport stock to 2½ per cent. interest, British Funds seem likely to resume their upward trend before long, in which case home rails would now doubtless move in sympathy.

Had the Argentine railway agreement been duly ratified, Argentine railway prior charges probably would have been paid off at this stage; and the market has been assuming that the bulk of the money would have been reinvested in British Funds.

The market is now afraid that with the U.K.-Argentine financial talks not yet concluded, the Argentine may not ratify the rail agreement before the end of the year. Consequently, Argentine rail stocks have lost ground, with declines in preference stocks ranging down to 1½. Debentures also eased, and 4 per cent. stocks of the leading companies are now back to 90, or 10 points below their share-out levels. Elsewhere, Central Uruguay stocks again attracted some attention on talk of "take-over" developments next year; the ordinary stock touched 26. San Paulo after easing to 160 rallied two points, but Leopoldina eased to 13¼. United of Havana 1906 debentures were 15½. Canadian Pacifics have been steady at 17⅛.

Iron and steel shares were particularly firm, helped by the latest coal production figures. United Steel were 26s. 10½d., Stewarts and Lloyds 56s. 6d. Tube Investments rose to £6⅞, Guest Keen were 48s. 6d., Hadfields 25s. 7½d., while Dorman Long have been firm at 28s. 6d. in response to the big profit increase and maintained 8 per cent. dividend. T. W. Ward rose further to 53s. 6d., and following publication of the results, J. Brockhouse shares jumped to 68s. 9d. Babcock & Wilcox were good at 73s. 6d.

Elsewhere Gloucester Wagon touched 65s., Vulcan Foundry changed hands up to 33s. 6d., North British Locomotive were around 28s. 3d., and Beyer Peacock 25s. 3d., while there was activity around 21s. 3d. in Wagon Repairs 5s. shares. Shares of most wagon companies have been favoured; those of locomotive engineering and building companies were again in better demand on hopes of expansion in export trade. In many instances the doubled Profits Tax will bear very heavily, and it may be unwise to budget for any marked improvement in dividends, although in cases where large sums have been absorbed in E.P.T. in recent years, the end of E.P.T. as from the beginning of this year may more than offset the increased Profits Tax.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1945/46	No. of Week	Aggregate traffics to date: Totals 1946/7	Aggregate traffics to date: Totals 1945/6	Aggregate traffics to date: Increase or decrease	Shares or Stock.	Prices: Highest 1946	Prices: Lowest 1946	Prices: Nov. 25, 1947
				£	£		£	£	£				
South & Central America	Antofagasta	834	16.11.47	55,790	+ 23,130	46	1,982,090	1,546,340	+ 435,750	Ord. Stk.	11	10½	11¼
	Arg. N.E.	753	15.11.47	ps.407,500	+ps.48,800	20	ps.6,716,200	ps.6,258,900	+ ps.457,300	,,	17	5	10
	Bolivar	174	Oct., 1947	$105,321	− $9,383	43	$1,073,351	$1,084,538	− $11,187	6 p.c. Deb.	6½	5½	22½
	Brazil	—	—	—	—	—	—	—	—	Bonds	30	26	44½
	B.A. Pacific	2,771	15.11.47	ps.2,600,000	+ps.229,000	20	ps.50,485,000	ps.44,264,000	+ ps.6,221,000	Ord. Stk.	8½	5¼	10
	B.A.G.S.	5,080	15.11.47	ps.3,551,000	+ps.174,000	20	ps.65,699,000	ps.64,385,000	+ ps.1,314,000	Ord. Stk.	16	10½	16
	B.A. Western	1,924	15.11.47	ps.1,438,000	+ps.239,000	20	ps.27,729,000	ps.23,987,000	+ ps.3,742,000	,,	19	9¼	21
	Cent. Argentine	3,700	15.11.47	ps.3,579,400	+ps.341,900	20	ps.67,003,260	ps.62,314,625	+ps.4,688,635	,,	10¼	7½	17
	Do.	—	—	—	—	—	—	—	—	Dfd.	6	4½	11¼
	Cent. Uruguay	970	15.11.47	30,882	− 10,913	20	626,982	727,682	− 100,700	Ord. Stk.	8¼	3½	25½
	Costa Rica	262	Oct., 1947	34,978	+ 4,097	18	128,051	112,213	+ 15,838	Stk.	15	12	8½
	Dorada	70	Oct., 1947	26,800	− 3,300	44	300,900	309,975	− 9,075	1 Mt. Deb.	102½	99½	108
	Entre Rios	808	15.11.47	ps.473,100	−ps.15,000	20	ps.8,775,400	ps.8,333,000	+ ps.442,400	Ord. Stk.	9	5½	10
	G.W. of Brazil	1,030	15.11.47	42,300	+ 3,900	46	1,507,800	1,322,500	+ 185,300	Ord. Stk.	26/6	20/−	2⅞
	Inter. Ctl. Amer.	794	Sept., 1947	$899,119	+$177,926	39	$9,911,187	$8,024,842	+ $1,886,345	—	—	—	—
	La Guaira	22½	Oct., 1947	$87,799	− $18,478	43	$1,075,894	$1,165,843	− $89,949	5 p.c. Deb.	70	58	83½
	Leopoldina	1,918	15.11.47	54,419	− 9,062	46	3,033,446	2,786,261	+ 247,185	Ord. Stk.	5	3½	13½
	Mexican	483	31.5.47	ps.1,464,000	+ps.459,100	22	ps.7,706,200	ps.13,441,600	+ ps.5,220,000	Ord. Stk.	1⅞	⅞	1
	Midland Uruguay	319	Oct., 1947	18,301	− 680	17	67,875	80,584	− 12,709	—	—	—	—
	Nitrate	382	15.11.47	9,064	− 418	45	194,234	187,668	+ 6,566	Ord. Sh.	83/9	71/3	62/6
	N.W. of Uruguay	113	Sept., 1947	6,275	− 293	13	13,529	18,149	− 4,620	—	—	—	—
	Paraguay Cent.	274	14.11.47	G72,114	+ G6,874	20	G1,159,957	G1,217,981	− G58,024	Pr.Li.Stk.	78½	60	52½
	Peru Corp.	1,059	Oct., 1947	178,377	+ 25,140	18	696,140	629,700	+ 66,440	Pref.	16½	8¾	8
	Salvador	100	Sept., 1947	c78,000	+ c19,000	13	c235,000	c249,000	− c14,000	—	—	—	—
	San Paulo	153½	—	—	—	17	—	—	—	Ord. Stk.	119½	52½	162
	Taltal	156	Oct., 1947	7,855	+ 960	17	24,270	20,155	+ 4,115	Ord. Sh.	22/6	15/3	18/−
	United of Havana	1,301	15.11.47	55,656	+ 15,344	20	1,183,874	1,009,890	+ 173,984	Ord. Stk.	2	1⅛	1½
	Uruguay Northern	73	Oct., 1947	1,320	− 115	17	4,504	5,260	− 756	—	—	—	—
Canada	Canadian National	23,535	Oct., 1947	9,608 500	+ 226.250	44	90,551,500	81,911,750	+ 8,639,750	—	—	—	—
	Canadian Pacific	17,037	Sept., 1947	6,943,250	+ 463,500	39	58,232,250	53,661,750	+ 4,570,500	Ord. Stk.	25½	16¾	17
Various	Barsi Light †	202	Sept., 1947	20,947	+ 5,362	26	159,525	144,900	+ 14,625	Ord. Stk.	123½	111	102½
	Beira	204	Aug., 1947	113.063	+ 20.637	48	1,040,485	859,846	+ 180,639	—	—	—	—
	Egyptian Delta	607	30.9.47	17,756	− 829	26	296,832	309,781	− 12,949	Prf. Sh.	9½	5	6
	Manila	—	—	—	—	—	—	—	—	B. Deb.	75	60	82½
	Mid. of W. Australia	277	Sept., 1947	21,251	+ 2,575	13	58,967	48,624	+ 10,343	Inc. Deb.	85	70	74½
	Nigeria	1,900	Sept. 1947	349,839	− 6,103	26	2,086,405	2,251,155	− 164,750	—	—	—	—
	Rhodesia	2,445	Aug., 1947	585,421	+ 101,269	48	6,143,623	5,633,517	+ 510,106	—	—	—	—
	South African	13,323	25.10.47	1,247,179	+ 72,588	30	37,142,249	33,483,314	+ 3,658,935	—	—	—	—
	Victoria	4,774	June, 1947	1,110,647	− 86,014	52	—	—	—	—	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee